

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

DISTRIBUTION OF COMBINED BOARD FLAT CRUSH AND CORRELATION WITH
CONCORA FLAT CRUSH FOR COMMERCIALY MANUFACTURED BOARD

Project 1108-28S

Report One

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

June 6, 1961

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DISTRIBUTION OF COMBINED BOARD FLAT CRUSH AND CORRELATION WITH CONCORA FLAT CRUSH FOR COMMERCIAL MANUFACTURED BOARD

SUMMARY

At the request of the fourdrinier Kraft Board Institute, an investigation was carried out to provide information regarding the distribution of flat-crush values to be expected from commercial corrugating medium when fabricated into combined board (in the major flutes) as part of production runs on commercial corrugators. For this purpose, two samples were taken each week over a six-month period by each of 52 corrugators (termed plants in this report) and evaluated for flat crush and Concora strength at the Institute. The distribution of the plants among the various flutes was as follows:

	No. of Plants
A-flute	15
B-flute	17
C-flute	15
C-39 flute	5

The above sampling resulted in a total of about 54 samples per plant and the following total number of samples for each flute.

	No. of Samples
A-flute	697
B-flute	689
C-flute	688
C-39 flute	228

In this report all plants are identified by a letter code and the following results were obtained.

1. The following average combined board flat-crush values were obtained where the letter in parenthesis denotes a particular plant.

	Combined Board Flat Crush, p.s.i.			
	A-flute	B-flute	C-flute	C-39 flute
Maximum	35.6 (TT)	53.8 (EE)	48.7 (GG)	47.2 (WW)
Minimum	29.6 (Q)	35.7 (H)	36.6 (E)	42.9 (ZZ)
Average	32.4 29.7	45.0	43.7	45.2

Comparison of C-39 flute test levels with regular C-flute should be made with caution because all C-39 flute samples were obtained from plants of one company and using primarily mediums of their own manufacture.

2. Frequency distributions of the combined board flat-crush values gave the following percentages of samples falling below arbitrarily selected levels of flat crush.

Flat Crush, p.s.i.	Per Cent Below			
	A-Flute	B-Flute	C-Flute	C-39 Flute
25	1.9	0	0.1	0
26	2.9	0	0.1	0
27	4.7	0	0.1	0
28	7.2	0.3	0.1	0
29	12.2	0.4	0.3	0
30	20.5	1.0	0.4	0
32	40.3	2.9	1.0	0
34	69.3	7.3	2.5	0
36	90.0	12.0	5.8	0.4
38	97.1	19.6	11.6	0.9
40	99.0	27.6	21.8	3.9
42	99.4	36.3	35.3	17.5
44	99.7	46.2	50.3	36.0

3. The following average Concora flat-crush values were obtained in the medium samples forwarded for each flute. The letter in parenthesis denotes a particular plant.

	Concora Flat Crush, p.s.i.			
	A-Flute	B-Flute	C-Flute	C-39 Flute
Maximum	38.1 (TT)	38.3 (FF)	38.1 (GG)	37.3 (VV)
Minimum	31.5 (Q)	32.8 (I)	33.1 (T)	34.0 (YY)
Average	35.7	35.0	34.7	35.9

4. Frequency distributions of the Concora flat crush values for medium samples forwarded with each flute gave the following percentages of samples falling below arbitrarily selected levels of Concora flat crush.

Concora Flat Crush, p.s.i.	Per Cent Below			
	A-Flute	B-Flute	C-Flute	C-39 Flute
29	1.7	2.2	0.9	--
30	3.9	4.8	2.0	--
31	7.6	9.4	5.1	0.4
32	11.6	16.1	11.2	1.3
33	18.8	25.7	26.0	10.5

Complete distributions may be found in the text.

5. The composite relationships between Concora and combined board flat crush were as follows:

	A	Flute B	C	C-39
a. Correlation coefficient	+0.75	+0.56	+0.65	+0.62
b. Regression constants				
Intercept	+6.7 ³ 58	-2.998	-2.788	+15.059
Slope	+0.730	+1.372	+1.340	+ 0.838
c. Average difference between computed and observed flat crush, p.s.i.	1.6	4.9	3.2	2.0
d. Per cent of comparisons within indicated range of observed value				
± 1 p.s.i.	40	12	19	32
± 2 p.s.i.	71	25	40	57
± 3 p.s.i.	87	34	57	78

Relatively unsatisfactory relationships were obtained for the B- and C-flute data as reflected by the higher average differences between computed and observed combined board flat crush and the relatively low percentages of values falling within the indicated ranges of flat crush.

A. flute C.B. Flat Crush = 6.4 + 0.73 (Board - psi)

INTRODUCTION

For some time the Fourdrinier Kraft Board Institute has had under consideration a proposal to promote standards based on combined board flat crush. As a result, the Institute was requested to outline an investigation designed to provide information as to the distribution of flat-crush values to be expected from commercial corrugating medium when fabricated into combined board in the major flutes as a part of regular production runs on commercial corrugators.

To this end it was proposed and approved that rolls of medium--- selected at random from box shop inventory--be fabricated by integrated or affiliated box plants of the Fourdrinier Kraft Board Institute member companies. Two samples each week over a six-month period were to be taken by each of the 52 single-facers selected for inclusion in the program. The distribution of the single-facers among the various flutes was as follows:

	No. of Single-Facers
A-flute	15
B-flute	17
C-flute	15
C-39 Flute	5
Total	52

The samples of medium and combined board taken by the box plants were forwarded to the Institute for evaluation as follows:

1. Corrugating medium--Concora medium test
2. Combined board --Flat crush

An outline of the study as approved may be found in Appendix C.

Each corrugator (termed box plant in succeeding parts of this report) was assigned a code letter for the purpose of sample identification and analyses. All results are reported and discussed in terms of the assigned coded identities.

MATERIALS

A summary of the samples received from each plant is tabulated in Table I. As may be noted, most plants submitted the planned quota of samples (54). Plants forwarding 20 or less samples included A-flute plants Q and TT, B-flute plants L, M, and UU, C-flute plants O and U and C--39 flute plant YY. The total number of samples received in each major flute is shown below:

Flute	No. of Samples
A	697
B	689
C	688
C-39	228

TEST PROCEDURE

CONDITIONING

Corrugating Medium

All medium samples were preconditioned at least 4 hours at less than 35% R.H. and 73°F. They were then conditioned at least 12 hours at $50 \pm 2\%$ R.H. and 73°F. prior to fluting in the Concora fluter. After fluting and taping, the specimens were conditioned at least 15 and no longer than 45 minutes at $50 \pm 2\%$ R.H. and $73 \pm 3.5^\circ\text{F.}$ prior to testing.

TABLE I

SUMMARY OF SAMPLES RECEIVED

A-Flute		B-Flute		C-Flute		C-39 Flute	
Plant Code	No. of Samples	Plant Code	No. of Samples	Plant Code	No. of Samples	Plant Code	No. of Samples
A	54	B	53	E	54	VV	54
C	54	D	54	N	54	WW	57
F	54	H	54	O	11	XX	48
G	54	I	54	T	50	YY	20
J	36	K	54	U	6	ZZ	49
P	55	L	6	Z	53		
Q	16	M	2	GG	55		
V	54	R	54	KK	56		
W	54	S	26	LL	23		
AA	52	X	54	MM	53		
BB	55	Y	54	NN	57		
CC	54	DD ^a	53	OO	55		
HH	48	EE ^a	50	PP	54		
SS	44	FF	54	QQ	53		
TT	13	II	38	RR	54		
		JJ	24				
		UU ^a	5				
Total	697		689		688		228

^a Excludes samples when the number of rolls was such that three or less acceptable test values were included in the average. One sample from Plant DD, four from EE, and two from UU were excluded.

Combined Board

All samples were preconditioned at least 24 hours at less than 35% R.H. and 73°F. and conditioned at least 48 hours at $50 \pm 2\%$ R.H. and 73°F. prior to testing.

TESTING

Concora Medium Test

Each roll of medium used in the study was to be sampled at the beginning (start) and end of its run in the corrugator by a box plant representative. Both "start" and "end" samples were to consist of four square foot sheets taken at equal intervals across the width of the roll after all damaged medium was removed. (Note: Samples as received usually consisted of strips taken across the full roll width at "start" and "end" of run. Four Concora specimens were cut from the "start" and four from the "end" sample approximately equally spaced across the roll width.

Combined Board Flat Crush

Box blanks representing the full width of the corrugator were to be taken at the beginning (start) and end of corrugation of each selected roll of medium. The blanks corresponding to the "start" were to be taken only after acceptable board was produced. The "end" sample was to be taken in the same manner as the "start" sample with the provision that it should be so as to correspond as nearly as possible to the "end" sampling for the roll of medium. The combined board samples were to contain only board which had moved through the hot plate section at the speed indicated for that particular run.

Four test specimens were cut from the "start" and four from the "end." As described in the proposal, the specimens were tested in accordance with ASTM D-1225-54 except that

(a) specimens exhibiting rolling flutes were recorded but invalidated. A replacement test was made for each invalidated specimen and the flat crush reported as the average of the valid test readings.

In interpreting the above, one replacement specimen was cut for any of the eight original specimens which rolled. If the replacement specimen also rolled, no additional specimens were cut and the average was calculated using only the test results for the specimens exhibiting no rolling. Beside each test average, a parenthesis of three figures such as (12-4-8) was formed where:

1. The first figure denotes the total number of tests performed.
2. The second figure denotes the number of specimens which rolled.
3. The third figure denotes the number of test readings included in the average.

In a number of instances samples were encountered where all or nearly all specimens rolled. The arbitrary rule was adopted to exclude samples from the analysis where the number of rolls was such that three or less test values were included in the average. Using this criterion, the results for seven samples were excluded from the analysis as follows:

Plant	No. of Samples Excluded	No. of Remaining Samples
DD	1	53
EE	4	50
UU	2	5

DISCUSSION OF RESULTS

The following discussion has been divided into five parts or sections. In the first four parts the Concora and combined board flat-crush results are analyzed for each of the major flutes--A, B, C and C-39 flute. For each of the flutes the analysis includes:

- (a) Summary of sample averages by plant.
- (b) Frequency distributions for Concora and combined board flat crush.
- (c) A combined frequency distribution for both tests.
- (d) Correlation of Concora and flat-crush values for all plants of a given flute.

The individual sample averages for each plant participating in the program are given in Appendix A in alphabetical order.

In the fifth section of the report individual plant correlations of Concora and combined board flat crush are discussed.

PART I. A-FLUTE RESULTS

The A-flute test results are summarized in Table II. For each plant, the over-all average Concora and flat-crush value is recorded together with the maximum and minimum sample averages. In terms of average combined board flat crush, plant Q exhibited the lowest average of 29.6 p.s.i. and Plant TT exhibited the highest average of 35.6 p.s.i. The over-all combined board flat crush average was 32.4 p.s.i. The Concora flat-crush averages ranged from 31.5 p.s.i. for Plant Q to 38.1 p.s.i. for Plant TT with an over-all average of 35.7 p.s.i.

A frequency distribution of the combined board flat-crush values for all plants is tabulated in Table III. The following values are abstracted from the table to show the number of samples exhibiting combined board flat-crush values lower than a number of arbitrarily chosen levels of flat crush.

Flat Crush, p.s.i.	Samples Having Flat Crush Lower Than Indicated Value		Number of Plants
	Number	Per Cent ^a	
25	13	1.9	5
26	20	2.9	6
27	33	4.7	9
28	50	7.2	10
29	85	12.2	12
30	143	20.5	13

^a Per cent of total number of samples.

TABLE II
AVERAGE CONCORRA AND COMBINED BOARD FLAT CRUSH VALUES FOR A-FLUTE PLANTS

Box Plant	No. of Samples	Combined Board Flat Crush,		Concorra Flat Crush,	
		Max.	p.s.i. Min.	Max.	p.s.i. Min.
A	54	37.0	27.5	39.2	30.3
C	54	34.3	25.6	39.1	30.2
F	54	39.4	19.5	41.7	28.4
G	54	34.5	22.6	38.1	24.2
J	36	45.3	29.0	52.4	30.2
P	55	39.2	24.5	40.4	26.1
Q	16	36.2	23.9	36.8	26.1
V	54	36.6	26.3	41.0	32.0
W	54	39.0	24.6	42.0	29.6
AA	52	40.4	28.1	44.2	33.0
BB	55	37.5	31.2	44.2	32.9
CC	54	37.1	30.8	41.5	34.9
HH	48	37.6	28.1	38.8	30.2
SS	44	38.2	26.7	40.0	32.6
TT	13	42.4	26.8	41.0	35.0
Weighted Average (n = 697)		32.4		35.7	

22581.9
697 = 32.4

TABLE III
COMBINED BOARD FLAT CRUSH FREQUENCY DISTRIBUTION FOR A-FLUTE SAMPLES

Flat Crush Range, p.s.i.	A	C	F	G	J	P	Q	V	W	AA	BB	CC	HH	SS	TT	Total	Cumulative Total	Cumulative, %
19.0-19.9			1													1	1	0.1
20.0-20.9			1													1	2	0.3
21.0-21.9			0													0	2	0.3
22.0-22.9			1	1												2	4	0.6
23.0-23.9			2	1			1									4	8	1.1
24.0-24.9			1	1		1	1		1							5	13	1.9
25.0-25.9		2	4	0		0	0		1							7	20	2.9
26.0-26.9		2	1	1		1	2	1	3					1	1	13	33	4.7
27.0-27.9	1	2	3	1		3	2	0	4					1	0	17	50	7.2
28.0-28.9	0	8	3	10		3	1	2	2	1			3	2	0	35	85	12.2
29.0-29.9	7	14	1	9	3	3	3	2	11	0			3	2	0	58	143	20.5
30.0-30.9	12	11	2	11	4	8	1	3	3	0		1	3	6	0	65	208	29.8
31.0-31.9	10	3	3	4	5	7	2	5	6	0	0	9	7	12	0	73	281	40.3
32.0-32.9	11	7	7	6	4	5	0	7	3	4	4	17	9	7	2	93	374	53.7
33.0-33.9	4	3	5	8	9	11	1	8	7	14	7	12	12	6	2	109	483	69.3
34.0-34.9	4	2	6	1	3	5	0	12	7	10	20	8	7	4	1	90	573	82.2
35.0-35.9	3		3		2	4	1	10	1	9	14	5	0	2	0	54	627	90.0
36.0-36.9	1		2		0	3	1	4	3	10	8	1	2	0	3	38	665	95.4
37.0-37.9	1		2		0	0			1	3	2	1	2	0	0	12	677	97.1
38.0-38.9			5		0	0			0	0				1	1	7	684	98.1
39.0-39.9			1		1	1			1	0					2	6	690	99.0
40.0-40.9					1					1					0	2	692	99.3
41.0-41.9					1										0	1	693	99.4
42.0-42.9					1										1	2	695	99.7
43.0-43.9					0											0	695	99.7
44.0-44.9					1											1	696	99.9
45.0-45.9					1											1	697	100.0
Total	54	54	54	54	36	55	16	54	54	52	55	54	48	44	13	697		

While only 13 or 1.9% of the samples gave flat-crush values lower than 25 p.s.i., 7.2% of the samples had flat-crush values lower than 28 p.s.i. and about 20% of the samples had flat-crush values lower than 30 p.s.i. Referring to Table III, it may be noted also that the majority of the flat-crush values fell in the 28 to 37 p.s.i. range.

With regard to the Concora test, the frequency distribution of Concora values by plant is tabulated in Table IV. The following values are abstracted from the table.

Concora Flat Crush, p.s.i.	Samples Having Concora Tests Lower Than Indicated Value			Number of Plants
	Number		Per Cent ^a	
28	9		1.3	3
29	12		1.7	4
30	27		3.9	5
31	53		7.6	9
32	81		11.6	9
33	131		18.8	12
34	194		27.8	13

^a Per cent of total number of samples.

Thus, in the case of the Concora medium test values, an appreciable percentage (18.8%) of the samples exhibited test values lower than 33 p.s.i. However, only 3.9%, submitted by 5 plants, fell below 30 p.s.i. and only 1.7% fell below 29 p.s.i. Finally, it may be noted that the greater number of test values fell in the intervals from 30 to 41 p.s.i.

TABLE IV
COPORA FLAT CRUSH DISTRIBUTION FOR CORRUGATING MEDIUMS SUBMITTED WITH A-FLUTE SAMPLES

Concora Range, p.s.i.	A	C	F	G	J	P	Q	V	W	AA	BB	CC	HH	SS	TT	Total	Cumulative Total	Cumulative %
24.0-24.9				2												2	2	0.3
25.0-25.9				1												1	3	0.4
26.0-26.9				0		1	1									2	5	0.7
27.0-27.9				0		2	2									4	9	1.3
28.0-28.9			1	1		0	1									3	12	1.7
29.0-29.9			2	3		5	2									15	27	3.9
30.0-30.9	2	3	5	3	2	5	2						1			26	53	7.6
31.0-31.9	2	2	1	7	1	6	1						3			28	81	11.6
32.0-32.9	7	7	2	8	4	6	1	3			1		4	3		50	131	18.8
33.0-33.9	15	6	3	7	3	10	0	0			1		5	3		63	194	27.8
34.0-34.9	9	11	10	6	4	4	3	3			1		8	1		69	263	37.7
35.0-35.9	5	14	2	7	9	5	1	7			6		9	7	2	89	352	50.5
36.0-36.9	7	8	7	5	6	3	2	10			8		5	11	1	95	447	64.1
37.0-37.9	4	1	5	1	1	4		9			10		9	7	3	88	535	76.8
38.0-38.9	2	1	9	3		2		12			14		10	8	2	78	613	87.9
39.0-39.9	1	1	4			1		4			9		8	2	3	44	657	94.3
40.0-40.9			2			1		5			1		4	2	1	23	680	97.6
41.0-41.9			1					1			3		1			8	688	98.7
42.0-42.9											0					1	689	98.9
43.0-43.9											0					0	689	98.9
44.0-44.9										1	1					2	691	99.1
45.0-45.9																0	691	99.1
46.0-46.9																0	691	99.1
47.0-47.9					3											3	694	99.6
48.0-48.9																0	694	99.6
49.0-49.9					1											1	695	99.7
50.0-50.9																0	695	99.7
51.0-51.9					1											1	696	99.9
52.0-52.9					1											1	697	100.0
Total	54	54	54	54	36	55	16	54	54	52	55	54	48	44	13	697		

At this point, it may be mentioned that the Concora distributions could be summed over all flutes since it may be presumed that basically the same quality of medium is used in fabrication. Separate classification for the flutes is used herein because it was necessary for other portions of the analysis.

A scatter diagram for the A-flute results is illustrated in Fig. 1 which shows

- (a) the number of samples falling in each 1 p.s.i. range of Concora and combined board flat crush,
- (b) the cumulative sample totals and percentages for Concora (figures along top of graph) and similar figures for combined board flat crush along the right-hand margin,
- and (c) the composite regression line for combined board flat crush versus Concora.

The equation for the regression line shown in the graph was as follows:

$$y = 6.358 + 0.730 x \quad (1)$$

where \underline{y} = A-flute combined board flat crush

and \underline{x} = Concora flat crush

Its correlation coefficient of 0.75 was, of course, highly significant. To illustrate in another manner the degree of relationship between the Concora and combined board flat-crush tests, the Concora test values were substituted into Equation (1). The resulting estimated combined board flat-crush values were then compared with the observed values. A summary of the comparisons may be found in Table V for each plant and for the composite of all plants. Referring to the table, it may be noted that

TABLE V
SUMMARY OF COMPARISON OF ESTIMATED AND OBSERVED A-FLUTE COMBINED BOARD FLAT CRUSH VALUES

Box Plant	No. of Samples	Average Difference Between Computed and Estimated Flat Crush Values, p.s.i.	± 1 p.s.i.		± 2 p.s.i.		± 3 p.s.i.		Maximum Deviation, p.s.i.
			Number	Per Cent ^a	Number	Per Cent ^a	Number	Per Cent ^a	
A	54	1.2	25	46.3	43	79.6	51	94.4	4.2
C	54	1.7	17	31.5	31	57.4	47	87.0	4.2
F	54	2.5	14	25.9	23	42.6	35	64.8	8.8
G	54	1.1	27	50.0	50	92.6	52	96.3	3.2
J	36	1.6	13	36.1	27	75.0	32	88.9	4.7
P	55	2.2	16	29.1	29	52.7	39	70.9	6.8
Q	16	1.9	4	25.0	9	56.2	13	81.2	4.7
V	54	1.4	23	42.6	41	75.9	50	92.6	5.0
W	54	1.6	23	42.6	38	70.4	44	81.5	4.9
AA	52	1.1	30	57.7	44	84.6	51	98.1	3.8
BB	55	1.3	25	45.5	40	72.7	52	94.5	3.8
CC	54	1.2	25	46.3	45	83.3	52	96.3	3.9
HH	48	1.5	23	47.9	38	79.2	42	87.5	7.1
SS	44	1.6	16	36.4	31	70.5	40	90.9	4.8
TT	13	3.2	2	15.4	6	46.2	7	53.8	7.4
Composite	697	1.6	283	40.6	495	71.0	607	87.1	8.8

^a Based on total number of samples submitted by plant.

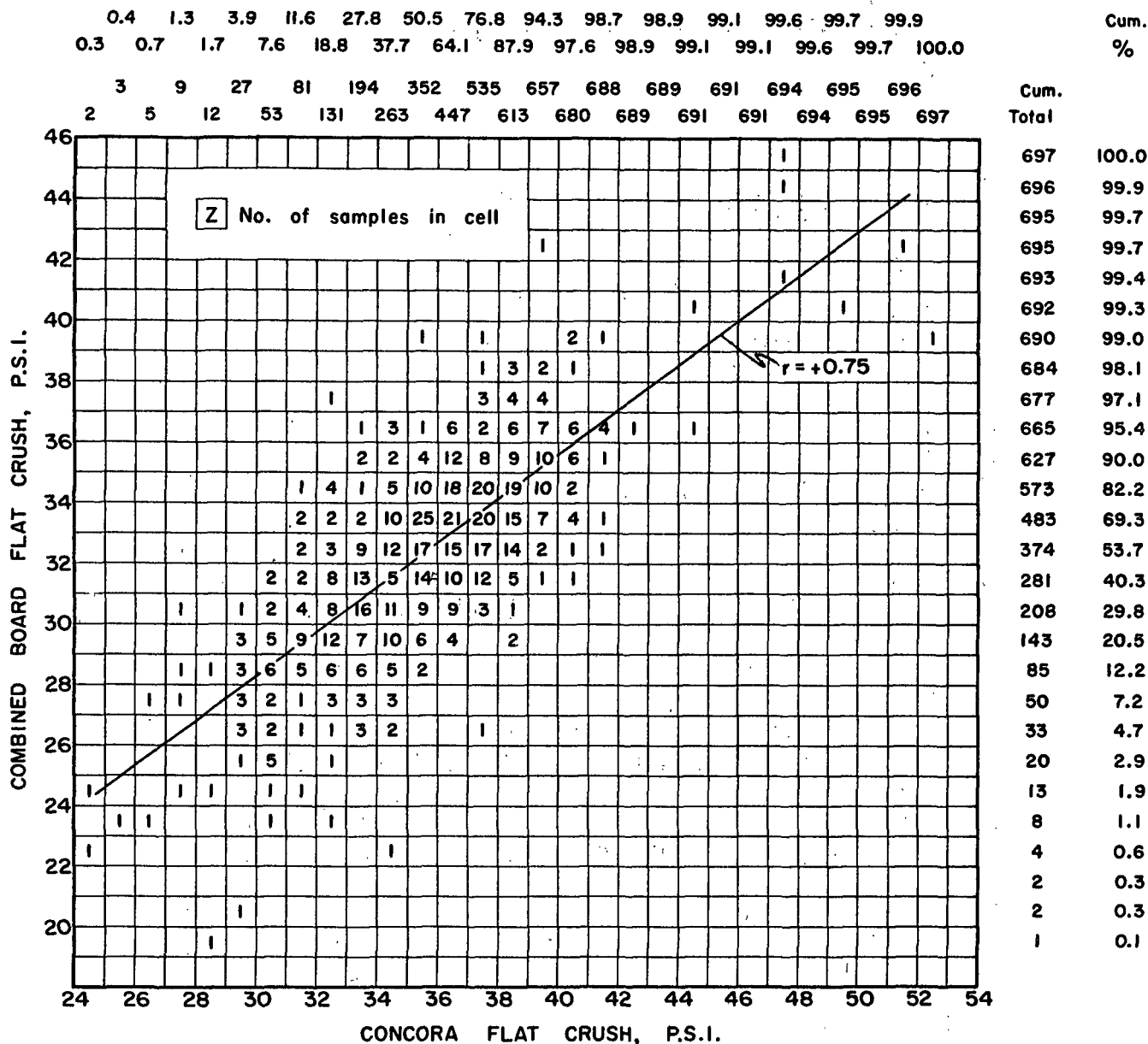


Figure 1. Relationship Between Combined Board Flat Crush and Concra for A-flute Samples

(a) The average difference between computed and observed A-flute combined board flat crush was 1.6 p.s.i.

(b) For the composite of all plants, approximately 40% of the comparisons were within ± 1 p.s.i. of the observed flat-crush value, 71% were within $\pm 2\%$ and 87% were within $\pm 3\%$ of the observed combined board flat-crush value.

(c) For the individual plants, the average difference ranged from a low of 1.1 p.s.i. for Plants G and AA to a high of 2.2 p.s.i. for Plant PP (Plant TT's average difference was 3.2 p.s.i.; however, only 13 samples were submitted).

Taken as a whole, therefore, it appears that the Concora flat-crush values yielded reasonably satisfactory estimates of A-flute combined board flat crush.

Referring again to Fig. 1, the graph is useful in illustrating the rejection levels associated with any proposed specification on either combined board flat crush or Concora flat crush. For example, assume that it were thought appropriate to place a minimum specification of \underline{Y} p.s.i. on combined board flat crush. An estimate of the per cent of combined board samples below the proposed specification may then be read from the cumulative figures along the right-hand margin. If Equation (1) is then used to estimate a satisfactory specification on Concora flat crush (say, \underline{x} p.s.i.), the per cent of corrugating medium samples failing to meet the proposed Concora specification can immediately be read from the cumulative totals along the top of the graph. Examination of the figure will also give some indication for any proposed specification as to the number of samples of combined board

samples failing to meet a given combined board flat-crush specification but apparently fabricated from mediums of satisfactory Concora flat crush.

In conclusion, the A-flute results may be summarized briefly as follows:

1. Average combined board flat-crush values for the individual plants ranged from 29.6 to 35.6 p.s.i.

2. Average Concora flat-crush values for the individual plants ranged from 31.5 p.s.i. to 38.1 p.s.i.

3. With regard to combined board flat crush, the frequency distribution indicated that 2.9% of the samples gave flat-crush values lower than 26 p.s.i., 7.2% were lower than 28 p.s.i. and 20.5% were lower than 30 p.s.i.

4. The Concora frequency distribution indicated that 3.9% of the samples gave Concora values lower than 30 p.s.i., 7.6% were lower than 31 p.s.i., and 18.8% were lower than 33 p.s.i.

5. Reasonably satisfactory estimates of A-flute combined board flat crush were obtained from the Concora tests. The average difference between computed and observed values was 1.6 p.s.i. For all plants approximately 50% of the comparisons were within ± 1 p.s.i. of the observed flat-crush value and 71% were within ± 2 p.s.i.

PART 2. B-FLUTE RESULTS

The B-flute test results are summarized in Table VI. Disregarding Plants L, M, and UU, which submitted only a few samples, the combined board flat-crush averages ranged from 35.7 p.s.i. for Plant H to 53.8 p.s.i. for Plant EE, with an over-all average of 45.0 p.s.i. This spread between plants is considerably greater than was encountered for the A-flute plants. The maximum and minimum flat-crush values were also widely separated and a number of the minimum values were approximately at the level of A-flute flat crush. With regard to Concora, the plant averages ranged from 32.8 p.s.i. for Plant I to 38.3 p.s.i. for Plant FF. The over-all Concora average of 35.0 p.s.i. was approximately equal to that obtained for the corrugation mediums submitted with the A-flute samples--35.7 p.s.i.

A frequency distribution of the B-flute combined board flat-crush results is tabulated in Table VII. The following values are abstracted from the table to show the number of samples exhibiting combined board flat-crush values lower than a number of arbitrarily chosen levels of flat crush.

Flat Crush, p.s.i.	Sample Having Flat Crush Lower Than Indicated Value, ^a		Number of Plants
	Number	Per Cent ^a	
32	20	2.9	5
34	50	7.3	7
36	87	12.6	7
38	135	19.6	8
40	190	27.6	11

^a Per cent of total number of samples.

TABLE VI
AVERAGE CONCORRA AND COMBINED BOARD FLAT CRUSH VALUES FOR B-FLUTE BOX PLANTS

Box Plant	No. of Samples	Combined Board Flat Crush, p.s.i.		Concorra Flat Crush, p.s.i.		Average
		Maximum	Minimum	Maximum	Minimum	
B	53	56.4	43.7	39.4	29.6	34.5
D	54	45.7	36.0	39.7	29.9	34.6
H	54	49.1	27.5	42.9	27.7	35.4
I	54	43.7	31.7	38.3	26.6	32.8
K	54	59.6	39.2	38.3	30.1	34.8
L	6	54.2	39.4	38.0	29.4	33.9
M	2	56.0	55.1	34.1	33.1	33.6
R	54	57.6	29.0	39.3	24.7	33.1
S	26	62.1	33.4	38.6	28.0	33.5
X	54	62.0	27.5	41.5	25.4	35.3
Y	54	49.2	28.7	38.0	26.6	33.5
DD	53	56.2	39.4	41.8	31.1	36.8
EE	50	65.1	41.8	41.8	35.0	38.0
FF	54	57.6	43.4	41.9	33.9	38.3
II	38	51.8	33.2	40.9	30.3	34.8
JJ	24	55.1	40.4	35.8	30.7	33.0
UU	5	61.6	53.5	34.9	30.6	33.0
Weighted average (n = 689)						35.0

TABLE VII
COMBINED BOARD FLAT CRUSH DISTRIBUTION FOR B-FLUTE SAMPLES

Flat Crush Range, p.s.i.	B	D	H	I	K	L	M	R	S	X	Y	DD*	EE*	FF	II	JJ	UU ^a	Total	Cumulative Total	Cumulative %
27.0-27.9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0.3
28.0-28.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0.4
29.0-29.9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	1.0
30.0-30.9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11	1.6
31.0-31.9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	20	2.9
32.0-32.9	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	31	4.5
33.0-33.9	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	50	7.3
34.0-34.9	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	65	9.4
35.0-35.9	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	87	12.6
36.0-36.9	4	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	112	16.3
37.0-37.9	2	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	135	19.6
38.0-38.9	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	152	22.1
39.0-39.9	12	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	190	27.6
40.0-40.9	13	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	223	32.4
41.0-41.9	6	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	27	250	36.9
42.0-42.9	5	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	36	286	41.5
43.0-43.9	3	5	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	32	318	46.2
44.0-44.9	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	346	50.2
45.0-45.9	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	23	369	53.6
46.0-46.9	3	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	29	398	57.8
47.0-47.9	6	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	34	432	62.7
48.0-48.9	3	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	33	465	67.5
49.0-49.9	11	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	41	506	73.4
50.0-50.9	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	35	541	78.5
51.0-51.9	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	25	566	82.1
52.0-52.9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	584	84.9
53.0-53.9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	609	88.4
54.0-54.9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	632	91.7
55.0-55.9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	648	94.0
56.0-56.9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	657	95.4
57.0-57.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	665	96.5
58.0-58.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	670	97.2
59.0-59.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	671	97.4
60.0-60.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	677	98.3
61.0-61.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	684	99.3
62.0-62.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	688	99.9
63.0-63.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	688	99.9
64.0-64.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	688	99.9
65.0-65.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	689	100.0
Total	53	54	54	54	54	6	2	54	26	54	54	53	50	54	38	24	5	689		

^a Samples were excluded when the number of rolls were such that three or less acceptable test values were included in the average. One sample from Plant DD, four from EE, and two from UU were excluded.

The substantial dispersion of the B-flute combined board flat-crush results is well illustrated in Table VII and in the above abstract. Thus, 5 plants submitted 20 samples (2.9% of total number) having combined board flat-crush values lower than 32 p.s.i.. Corresponding percentages for combined board flat-crush levels of 34, 36, and 38 p.s.i. were 7.3, 12.6, and 19.6%, respectively.

If the same quality medium was used in all the major flutes, the data indicate that B-flute combined board quality as measured by the flat-crush test was far more variable than for A-flute. However, it should be mentioned that the Concora distribution discussed in the next paragraph gives some indication that slightly lower quality (Concora) mediums may have been employed in the B-flute samples as compared to A-flute.

The frequency distribution of Concora tests for the corrugating mediums fabricated into B-flute board is summarized in Table VIII. The following values are abstracted from the table:

Concora Flat Crush, p.s.i.	Samples Having Concora Tests Lower Than Indicated Value		Number of Plants
	Number	Per Cent ^a	
28	10	1.5	6
29	15	2.2	6
30	33	4.8	9
31	65	9.4	13
32	111	16.1	14
33	177	25.7	14
34	244	35.4	16

^a Per cent of total number of samples.

TABLE VIII
CONCORA FLAT CRUSH DISTRIBUTION FOR CORRUGATING MEDIUMS SUBMITTED WITH B-FLUTE SAMPLES

Concora Range, p.s.i.	B	D	H	I	K	L	M	R	S	Frequency X	Y	DD ^a	EE ^a	FF	II	JJ	UU ^a	Total	Cumulative Total	Cumulative Per Cent
24.0-24.9								1										1	1	0.1
25.0-25.9								0		1								1	2	0.3
26.0-26.9				1				2		1	1							5	7	1.0
27.0-27.9			1	0				0		0	0							3	10	1.5
28.0-28.9			0	2				0	2	1	0							5	15	2.2
29.0-29.9	2	1	1	3			1	3	2	1	4							18	33	4.8
30.0-30.9	1	3	4	6	2	1	1	6	0	2	2				2	2	1	32	65	9.4
31.0-31.9	3	3	2	8	3	0		3	4	4	6	1			4	5	0	46	111	16.1
32.0-32.9	3	6	5	11	4	0		8	2	4	10	0			5	6	2	66	177	25.7
33.0-33.9	11	7	5	11	5	0	1	4	4	2	8	1		1	4	3	0	67	244	35.4
34.0-34.9	11	5	2	2	15	2	1	10	2	5	8	6		2	5	5	2	83	327	47.5
35.0-35.9	9	16	7	3	10	0		4	5	6	3	10	5	3	5	3		89	416	60.4
36.0-36.9	8	4	9	1	9	0		5	2	5	5	15	8	5	2			78	494	71.7
37.0-37.9	4	5	6	5	3	1		1	2	9	6	11	14	9	3			79	573	83.2
38.0-38.9	0	3	7	1	3	1		3	1	4	1	5	10	15	4			58	631	91.6
39.0-39.9	1	1	4					2		8		0	5	9	2			32	663	96.2
40.0-40.9			0							0		0	6	7	2			15	678	98.4
41.0-41.9			0							1		4	2	3				10	688	99.9
42.0-42.9			1															1	689	100.0
Totals	53	54	54	54	54	6	2	54	26	54	54	53	50	54	38	24	5	689		

^a Samples were excluded where excessive "rolls" were encountered in the combined board flat crush testing--see Table VII.

The above distribution is quite like that already discussed for the A-flute data; however, at equal levels of Concora flat crush, the percentage of B-flute medium falling below that level is slightly greater than for A-flute. For example, 35.4% of the B-flute mediums gave Concora tests lower than 34%; the comparable figure for A-flute was 27.8%. At 32 p.s.i., the B-flute percentage was 16.1% and for A-flute 11.6. These differences in distribution are not substantial and it is doubted that they provide a real explanation of the observed wide distribution of B-flute combined board flat-crush results.

As in the case of the A-flute data, a scatter diagram was prepared in the form of a combined frequency distribution. The chart is shown in Fig. 2. Referring to the figure, it may be noted that the relationship between Concora and combined board flat crush is far less evident than was the case for the A-flute data. The equation for the regression equation shown in the figure was as follows:

$$y = 1.372 x - 2.998 \quad (2)$$

where y = B-flute combined board flat crush, p.s.i.

and x = Concora flat crush, p.s.i.

Its correlation coefficient was 0.56--statistically significant. However, as would be expected from examination of the scatter diagram, the comparisons of observed and estimated combined board flat crush were far less satisfactory than was true for A-flute. The comparisons for B-flute are shown in Table IX.

Referring to the table, it may be noted that

(a) the average difference between computed and observed combined board flat-crush values was 4.9 p.s.i. The comparable figure for A-flute was 1.6 p.s.i.

TABLE IX
SUMMARY OF COMPARISONS OF ESTIMATED AND OBSERVED B-FLUTE COMBINED BOARD FLAT CRUSH

Box Plant	No. of Samples	Average Difference Between Computed and Estimated Crush, p.s.i.	Number of Estimates Within Indicated Range												Maximum Deviation, p.s.i.
			± 1 p.s.i.		± 2 p.s.i.		± 3 p.s.i.		± 4 p.s.i.		± 5 p.s.i.		± 6 p.s.i.		
			Number	Per Cent ^b	Number	Per Cent ^b	Number	Per Cent ^b	Number	Per Cent ^b	Number	Per Cent ^b	Number	Per Cent ^b	
B	53	5.0	5	9.4	11	20.8	15	28.3	23	43.4	28	52.8	33	62.3	11.6
D	54	4.4	2	3.7	10	18.5	16	29.6	25	46.3	32	59.3	41	75.9	9.7
H	54	9.9	1	1.9	2	3.7	2	3.7	5	9.3	7	13.0	10	18.5	19.0
I	54	5.1	2	3.7	6	11.1	9	16.7	20	37.0	27	50.0	34	63.0	11.3
K	54	5.5	3	5.6	7	13.0	12	22.2	20	37.0	23	42.6	32	59.3	14.2
L	6	3.6	2	33.3	3	50.0	3	50.0	4	66.7	4	66.7	5	83.3	10.6
Ma	2	12.4	--	--	--	--	--	--	--	--	--	--	--	--	12.7
R	54	3.6	6	11.1	18	33.3	26	48.1	35	64.8	41	75.9	44	81.5	10.9
S	26	6.3	3	11.5	5	19.2	10	38.5	11	42.3	13	50.0	16	61.5	17.8
X	54	4.2	13	24.1	20	37.0	26	48.1	32	59.3	36	66.7	42	77.8	14.2
Y	54	3.3	12	22.2	20	37.0	25	46.3	34	63.0	40	74.1	46	85.2	9.2
DD	53	4.9	4	7.5	9	17.0	14	26.4	21	39.6	26	49.1	37	69.8	10.3
EE	50	5.8	7	14.0	14	28.0	16	32.0	19	38.0	23	46.0	27	54.0	16.6
FF	54	2.9	12	22.2	21	38.9	29	53.7	39	72.2	48	88.9	51	94.4	10.3
II	33	3.5	5	13.2	13	34.2	19	50.0	22	57.9	26	68.4	32	84.2	8.6
JJ	24	2.7	6	25.0	11	45.8	15	62.5	20	83.3	21	87.5	22	91.7	10.1
UU ^a	5	13.9	--	--	--	--	--	--	--	--	--	--	--	--	20.1
Composite	689	4.9	83	12.0	170	24.7	237	34.4	330	47.9	395	57.3	472	68.5	20.1

^a All differences were greater than ± 6 p.s.i.

^b Based on number of samples submitted by plant.

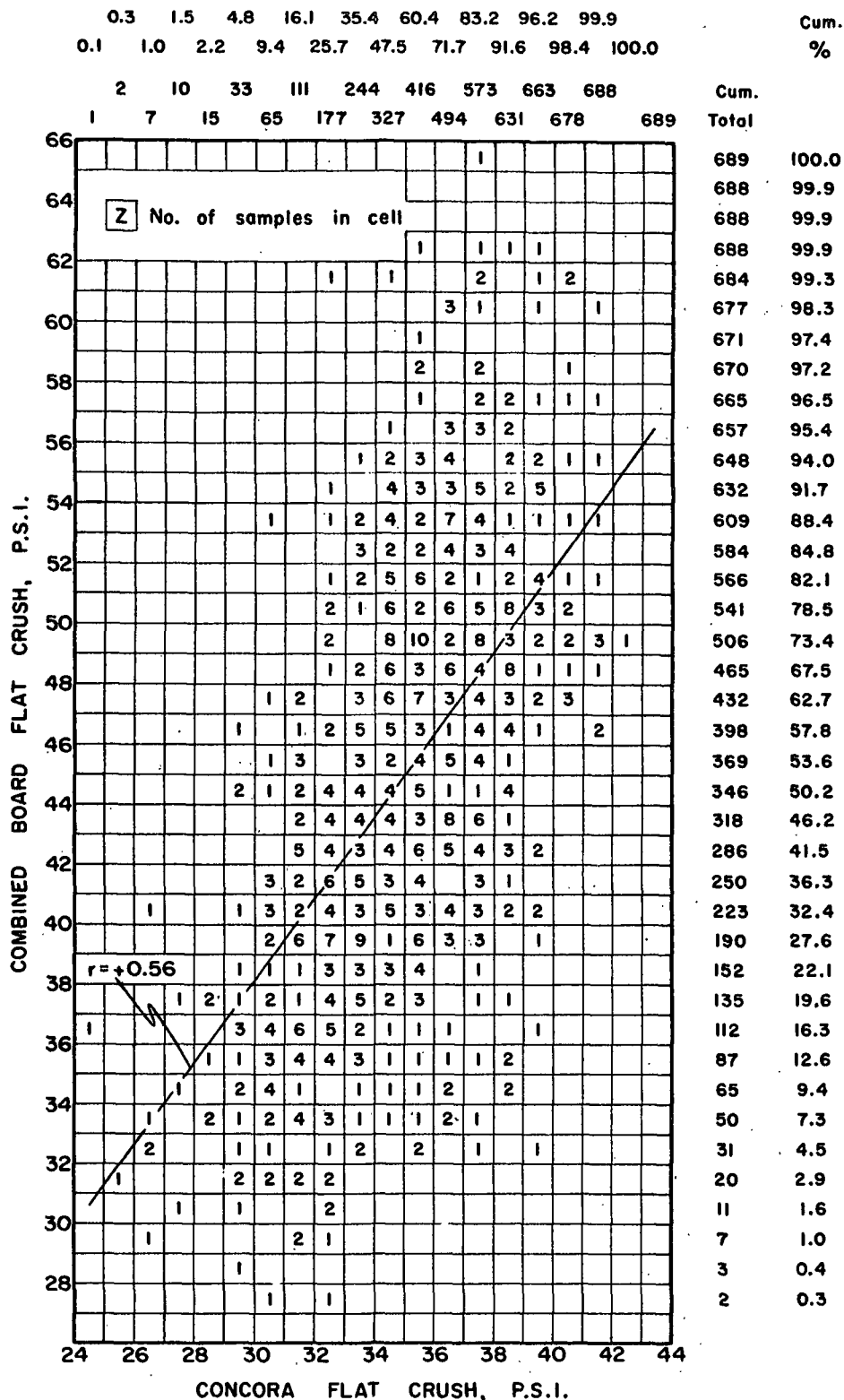


Figure 2. Relationship Between Combined Board Flat Crush and
Concra Flat Crush for B-Flute Samples

(b) For the composite of all plants, approximately 12% of the comparisons were within ± 1 p.s.i. of the average and only 34.4% were within ± 3 p.s.i. Comparable figures for A-flute was 40 and 87%.

The above results indicate that Concora tests do not yield particularly good estimates of B--flute combined board flat crush.

This result is not in agreement with the correlation reported by Long and Maltenfort (1,2). To speculate as to the reasons for the difference in correlation between A- and B-flute, it may be noted that, in general, combined board flat crush will depend on such factors as corrugator condition, converting variables, operator technique, roll contour, type of medium, etc.

The original correlation cited in reference was based on evaluation of 225 rolls from 8 mills and all rolls were combined using one corrugator. The present study represents an appreciably wider sampling of the industries production of corrugating medium and corrugating facilities. General opinion considers that A-flute is more sensitive to conversion conditions than B-flute. Consequently, it would not be too surprising if the industry tended to maintain their A-flute equipment at a higher level of efficiency than their B-flute equipment. Under these circumstances, the differences in correlation between A- and B-flute may not be unexpected.

It also appears possible that the mechanism of failure in B-flute flat crush may be somewhat different than that associated with A-flute flat crush. Since the Concora fluter employs simulated A-flute rolls, a difference in mechanism of failure between A- and B-flute combined board flat crush for

certain mediums would not be detected. The B-flute contour differs from A-flute contour in many ways--in particular, in flute height and tip radius. The following comments are frankly speculative in nature.

Perhaps the simplest idealization of the flat-crush test is to consider that near peak load the flute side walls behave as columns with an effective length that depends on the flute contour and the characteristics of the medium. If, in A-flute the side walls act as "long" or "intermediate" length columns, the maximum load will depend on the machine-direction tensile modulus, the moment of inertia and the column length. The effective column length for B-flute is shorter than A-flute and, consequently, the B-flute side wall may act as (a) either an intermediate column of shorter length than A-flute or, (b) in the extreme, as a short compression block. For case (a), B-flute flat crush would depend on the tangent modulus associated with its own particular stress level--a modulus which would differ at least in magnitude from the modulus governing A-flute flat crush. For case (b), B-flute flat crush would depend on the ultimate edge compression strength of the medium rather than its elastic or inelastic moduli. Because the Concora test utilizes effectively an A-flute contour, its predictive efficiency for B-flute would depend on a relationship between the modulus governing A-flute flat crush and the inelastic modulus or edge compression strength of the medium.

An alternative hypotheses relates to the observation that examination of flat-crush specimens often suggests that delamination caused by high shear stresses as the arches are straightened may initiate failure for some

mediums. The sharper tip radius on B-flute suggests that shear type failures would be more prevalent. The A-flute configuration used in the Concora would, then, be expected to yield less satisfactory correlations with B-flute combined board flat crush.

It is difficult to choose between the two alternatives in view of the present state of knowledge regarding (a) the fundamental mechanisms involved in flat crush, and (b) the utter lack of knowledge of regarding shear strength and moduli of paper and paperboard. Both problems are inter-related and work in both areas is to be recommended.

To conclude, B-flute results may be summarized briefly as follows:

- (1) Average combined board flat-crush results ranged from 35.7 to 53.8 p.s.i. for individual plants with an over-all average of 45.0 p.s.i.
- (2) Average Concora flat-crush values ranged from 32.8 to 38.3 p.s.i. for individual plants with an over-all average of 35.0 p.s.i.
- (3) With regard to combined board flat crush, the frequency distributions indicated that 2.9% of samples gave flat-crush values lower than 32 p.s.i., 7.3% lower than 34 p.s.i., and 19.6% were lower than 38 p.s.i.
- (4) The Concora frequency distribution indicated that 4.8% of the samples gave Concora values lower than 30 p.s.i., 9.4% were lower than 31 p.s.i., and 25.7% were lower than 33 p.s.i.
- (5) A relatively unsatisfactory correlation between Concora and B-flute combined board flat crush was obtained. The average difference between computed and estimated values was 4.9 p.s.i.--appreciably higher than was obtained with A-flute. Summing for all plants, approximately 34% of the comparisons were within $\pm 3\%$ of the observed values and only about 68% were within ± 6 p.s.i.

PART 3--C-FLUTE (REGULAR) RESULTS

The C-flute test results are summarized in Table X. Disregarding Plants O and U which submitted only a few samples, the combined board flat-crush averages ranged from 36.6 p.s.i. for Plant E to 48.7 p.s.i. for Plant GG with an over-all average of 43.7 p.s.i. This average was only slightly lower than the composite B-flute average of 45.0 p.s.i. With regard to Concora, the plant averages omitting Plants O and U ranged from 33.1 p.s.i. for Plant T to 38.1 p.s.i. for Plant GG. The over-all Concora average of 34.7 p.s.i. was slightly lower than those obtained for the A- or B-flute samples--35.7 and 35.0 p.s.i., respectively.

A frequency distribution of the C-flute combined board flat-crush values is tabulated in Table XI. The following values are abstracted from the table to show the number of samples exhibiting flat-crush values lower than a number of arbitrarily chosen levels of flat crush.

Combined Board Flat Crush, p.s.i.	Samples Having Flat Crush Lower Than Indicated Value		Number of Plants
	Number	Per Cent ^a	
34	17	2.5	6
36	40	5.8	7
38	80	11.6	8
40	150	21.8	13

^a Per cent of total number of samples.

As may be noted, 6 plants submitted a total of 17 samples (2.5% of the total number) having combined board flat-crush values lower than 34 p.s.i. Corresponding percentages for flat-crush levels of 36, 38, and 40 p.s.i. were 5.8, 11.6, and 21.8%, respectively.

TABLE X

AVERAGE CONCORRA AND COMBINED BOARD FLAT CRUSH VALUES FOR C-FLUTE REGULAR BOX PLANTS

Box Plant	Number of Samples	Combined Board Flat Crush, p.s.i.		Concorra Flat Crush, p.s.i.	
		Maximum	Average	Maximum	Average
E	54	42.5	36.6	38.9	34.6
N	54	62.6	41.1	45.4	34.8
O	11	45.7	42.9	36.4	34.4
T	50	46.2	40.7	40.3	33.1
V	6	46.0	42.5	33.3	32.0
Z	53	54.4	46.3	42.8	36.0
GG	55	54.6	48.7	42.9	38.1
KK	56	51.0	41.6	40.6	34.2
LL	23	45.8	41.7	37.4	33.4
MM	53	50.7	46.5	37.9	33.9
NW	57	50.1	42.2	37.5	33.3
OO	55	53.4	46.2	39.4	34.3
PP	54	51.4	46.4	38.4	35.7
QQ	53	57.1	43.7	40.6	35.4
RR	54	51.5	45.5	38.3	33.3
Weighted average (n=688)			43.7		34.7

TABLE XI
COMBINED BOARD FLAT CRUSH FREQUENCY DISTRIBUTION FOR C-FLUTE REGULAR SAMPLES

Flat Crush Range, p.s.i.	E	N	O	T	U	Z	CG	KK	LL	MM	NN	OO	PP	QQ	RR	Total	Cumulative Total	Cumulative Per Cent
24.0-24.9	1			1												1	1	0.1
25.0-25.9				0												0	1	0.1
26.0-26.9				0												0	1	0.1
27.0-27.9				0												0	1	0.1
28.0-28.9	1			0												1	2	0.3
29.0-29.9	0	1		0												1	3	0.4
30.0-30.9	0	1		0												1	4	0.6
31.0-31.9	2	1		0												3	7	1.0
32.0-32.9	1	0		0		1										2	9	1.3
33.0-33.9	4	2		0		0		1			1					8	17	2.5
34.0-34.9	4	2		0		2		0			0					8	25	3.6
35.0-35.9	9	2		0		0		3	1		0					15	40	5.8
36.0-36.9	11	4		6		0		3	0		0					24	64	9.3
37.0-37.9	5	1		6		1		0	2		0	1				16	80	11.6
38.0-38.9	7	4		3	1	1		7	0		3	1	1	5		33	113	16.4
39.0-39.9	6	2	1	5	0	2		7	1		8	0	1	3	1	37	150	21.8
40.0-40.9	2	6	1	3	1	2	1	5	4	1	7	1	3	5	0	47	197	23.6
41.0-41.9	1	5	1	3	1	2	2	6	2	1	5	4	1	8	0	46	243	35.3
42.0-42.9	1	8	2	7	1	2	0	3	2	2	5	6	2	4	5	50	293	42.6
43.0-43.9		4	3	6	0	2	1	1	2	2	9	6	3	8	6	53	346	50.3
44.0-44.9		1	0	6	0	2	3	4	2	7	9	3	5	2	13	57	403	58.6
45.0-45.9		2	3	3	1	3	2	4	4	9	5	8	4	5	5	58	461	67.0
46.0-46.9		2		1	1	5	1	2		7	2	2	5	3	6	37	498	72.4
47.0-47.9		2				4	6	4		7		4	7	2	7	43	541	78.6
48.0-48.9		1				6	10	3		5		3	14	3	5	50	591	85.9
49.0-49.9		0				5	13	0		8		7	4	3	1	41	632	91.9
50.0-50.9		1				2	4	0		4		3	1	1	3	19	651	94.6
51.0-51.9		0				6	5	1				1	3	0	1	17	668	97.1
52.0-52.9		0				2	2					2		0		6	674	98.0
53.0-53.9		0				2	3					3		0		8	682	99.1
54.0-54.9		0				1	2							0		3	685	99.6
55.0-55.9		0												0		0	685	99.6
56.0-56.9		0												0		0	685	99.6
57.0-57.9		1												1		2	687	99.9
58.0-58.9		0														0	687	99.9
59.0-59.9		0														0	687	99.9
60.0-60.9		0														0	687	99.9
61.0-61.9		0														0	687	99.9
62.0-62.9		1														1	688	100.0
Total	54	54	11	50	6	53	55	56	23	53	57	55	54	53	54	688		

The Concora frequency distribution is given in Table XII. The following values are abstracted from the table.

Concora Flat Crush, p.s.i.	Samples Having Concora Tests Lower Than Indicated Values		No. of Plants
	Number	Per Cent ^a	
28	3	0.4	2
29	6	0.9	3
30	14	2.0	4
31	35	5.1	10
32	77	11.2	13
33	179	26.0	14
34	291	42.3	15

^a Based on total number of samples

The above frequencies are quite similar to those previously discussed for the corrugating medium samples submitted with the A- and B-flute combined board samples.

A scatter diagram for the C-flute regular results is shown in Fig. 3. Referring to the figure, it may be noted that the relationship between Concora and combined board flat crush appears somewhat less satisfactory than for A-flute and somewhat better than was obtained for the B-flute data. The equation for the regression line shown in the figure was as follows:

$$y = 1.340 x - 2.788 \quad (3)$$

where \underline{y} = C-flute regular combined board flat crush

and \underline{x} = Concora flat crush, p.s.i.

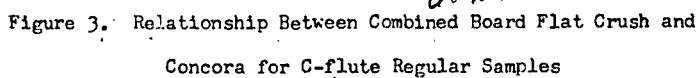
Its correlation coefficient of + 0.65 was statistically significant.

TABLE XII

CONCORA FLAT CRUSH DISTRIBUTION FOR CORRUGATING MEDIUMS SUBMITTED WITH C-FLUTE REGULAR SAMPLES

Concra Range, a p.s.i.	E	N	O	T	U	Z	CG	Frequency KK LL	MM	NN	OO	PP	QQ	RR	Total	Cumulative Total	Cumulative Per Cent
21.0-21.9				1											1	1	0.1
27.0-27.9				0		2									2	3	0.4
28.0-28.9		1		1		1									3	6	0.9
29.0-29.9		0		5		1									8	14	2.0
30.0-30.9		2		5	1	1		1	2	1	5			2	21	35	5.1
31.0-31.9	3	2		5	2	0		6	3	3	3	1		3	42	77	11.2
32.0-32.9	6	7		5	2	4	1	12	9	26	7	1		16	102	179	26.0
33.0-33.9	11	8	5	8	1	3	0	8	17	13	8	5		4	112	291	42.3
34.0-34.9	14	8	2	7		6	1	9	8	4	9	10		8	97	388	55.4
35.0-35.9	8	14	3	5		5	4	4	5	5	12	12		6	101	489	71.1
36.0-36.9	6	3	1	5		3	7	1	6	4	5	12		1	63	552	80.2
37.0-37.9	4	6		1		8	11	4	3	1	3	12		1	62	614	89.2
38.0-38.9	2	1		0		14	13	1			2	1		1	39	653	94.9
39.0-39.9		0		1		1	9	2			1				14	667	96.9
40.0-40.9		0		1		2	7	4							15	682	99.1
41.0-41.9		0				0	1								1	683	99.3
42.0-42.9		0				2	1								3	686	99.7
43.0-43.9		0													0	686	99.7
44.0-44.9		1													1	687	99.9
45.0-45.9		1													1	688	100.0
Total	54	54	11	50	6	53	55	56	53	57	55	54	53	54	688		

a Range intervals 22.0 through 26.9 are omitted as no test values fell in these intervals.



Comparisons of computed and estimated flat-crush values were made using Equation (3) and the results obtained are summarized in Table XIII. Referring to the table, it may be noted that

(a) The composite average difference between computed and observed C-flute combined board flat crush was 3.2 p.s.i. Comparable figures for A- and B-flute were 1.6 and 4.9 p.s.i., respectively.

(b) For the composite of all plants, approximately 19% of the comparisons were within ± 1 p.s.i. of the observed flat crush and only about 57% were within ± 3 p.s.i. Comparable figures for A and B-flute are given below:

	A-Flute	B-Flute
± 1 p.s.i.	40%	12%
± 3 p.s.i.	87%	34%

It is evident from the above that estimates of C-flute combined board flat crush from Concora tests are inferior to A-flute but better than B-flute. The previous discussion of the B-flute correlation applies equally well here.

To briefly summarize, the following results were obtained for the C-flute regular samples:

1. Average combined board flat-crush results ranged from 36.6 to 48.7 p.s.i. with an over-all average of 43.7 p.s.i.

2. Average Concora flat-crush values ranged from 33.1 to 38.1 p.s.i. with an over-all average of 34.7 p.s.i.

3. With regard to combined board flat crush, the frequency distribution indicated that 2.5% of the samples gave flat-crush values lower than 34 p.s.i., 5.8% were lower than 36 p.s.i., and 21.8% were lower than 40 p.s.i.

TABLE XIII
SUMMARY OF COMPARISONS OF ESTIMATED AND OBSERVED C-FLUTE REGULAR COMBINED BOARD FLAT CRUSH

Box Plant	No. of Samples	Average Difference Between Computed and Estimated Flat Crush, p.s.i.	+ 1 p.s.i.		+ 2 p.s.i.		+ 3 p.s.i.		+ 4 p.s.i.		+ 5 p.s.i.		+ 6 p.s.i.		Maximum Deviation, p.s.i.
			Number	Per Cent ^a	Number	Per Cent ^a	Number	Per Cent ^a	Number	Per Cent ^a	Number	Per Cent ^a	Number	Per Cent ^a	
E	54	7.0	1	1.9	1	1.9	1	1.9	3	5.6	8	14.8	15	27.8	11.1
N	54	4.3	11	20.4	17	31.5	22	40.7	27	50.0	34	63.0	42	77.8	14.8
O	11	1.7	3	27.3	6	54.5	11	100.0	11	100.0	11	100.0	11	100.0	2.9
T	50	1.9	17	34.0	35	70.0	40	80.0	44	88.0	46	92.0	47	94.0	8.8
U	6	2.4	3	50.0	3	50.0	4	66.7	4	66.7	5	83.3	6	100.0	5.8
Z	53	3.0	14	26.4	23	43.4	34	64.2	39	73.6	43	81.1	45	84.9	13.3
GG	55	2.2	13	23.6	28	50.9	39	70.9	48	87.3	53	96.4	55	100.0	5.4
KK	56	2.5	11	19.6	24	42.9	37	66.1	47	83.9	50	89.3	55	98.2	6.3
LL	23	1.7	8	34.8	17	73.9	19	82.6	22	95.7	22	95.7	23	100.0	5.9
MM	53	4.1	6	11.3	14	26.4	17	32.1	25	47.2	34	64.2	41	77.4	10.0
NN	57	2.1	18	31.6	30	52.6	47	82.5	49	86.0	52	91.2	54	94.7	7.5
OO	55	3.6	7	12.7	15	27.3	24	43.6	34	61.8	36	65.5	44	80.0	8.6
PP	54	2.9	10	18.5	23	42.6	31	57.4	39	72.2	47	87.0	50	92.6	9.6
QQ	53	2.3	11	20.8	25	47.2	40	75.5	43	81.1	48	90.6	52	98.1	6.7
RR	54	3.9	0	0.0	11	20.4	25	45.3	31	57.4	36	66.7	45	83.3	8.3
Composite	688	3.2	133	19.3	272	39.5	391	56.8	466	67.7	525	76.3	585	85.0	14.8

^a Based on number of samples submitted by plant.

4. The Concora frequency distribution indicated that 2.0% of the samples gave Concora values lower than 30 p.s.i., 5.1% were lower than 31 p.s.i., and 26% were lower than 33 p.s.i.

5. The correlation between Concora and combined board flat crush for the C-flute regular samples was inferior to the A-flute correlation and better than the B-flute correlation. The average difference between computed and estimated flat-crush values was 3.2 p.s.i.--intermediate between the comparable figures for A- and B-flute of 1.6 and 4.9 p.s.i., respectively. For all plants, approximately 57% of the computed values were within ± 3 p.s.i. of the observed values and about 85% were within ± 6 p.s.i.

PART 4---C-39 FLUTE RESULTS

For the five plants submitting C-39 flute samples, the average combined board flat-crush values shown in Table XIV ranged from 42.9 p.s.i. for Plant ZZ to 47.2 p.s.i. for Plant WW with an over-all average of 45.2 p.s.i. The Concora averages for these plants ranged from 34.0 for Plant YY to 37.3 for Plant VV with an over-all Concora average of 35.9 p.s.i.

The frequency distribution of C-39 flute combined board flat-crush values is tabulated in Table XV. The following values are abstracted from the table.

Combined Board Flat Crush, p.s.i.	Samples Having Flat Crush Lower Than Indicated Value		No. of Plants
	Number	Per Cent ^a	
38	2	0.9	2
39	3	1.3	2
40	9	3.9	3
41	24	10.5	4
42	40	17.5	4
43	60	26.3	5

^a Based on total number of samples.

As may be noted, approximately 4% of the samples exhibited flat-crush values lower than 40 p.s.i., 10.5% below 41 p.s.i., and 17.5% below 42 p.s.i.

Comparison of these distribution values or the average flat-crush values with the regular C-flute production should be cautiously made because all C-39-flute samples were submitted by plants from one company. As a result, most or all of the medium employed in the C-39 flute samples probably came from the production facilities of the one company. Narrower

TABLE XIV

Box Plant	No. of Samples	Combined Board Flat Crush, p.s.i.		Concora Flat Crush, p.s.i.	
		Maximum	Minimum	Maximum	Minimum
VV	54	52.0	40.7	43.7	33.4
WW	57	55.6	42.1	40.9	32.0
XX	48	50.0	35.1	39.4	31.2
YY	20	52.0	39.1	36.8	32.0
ZZ	49	49.5	36.4	40.4	30.9
Weighted average (n=228)		45.2		35.9	

TABLE XV
COMBINED BOARD FLAT CRUSH DISTRIBUTION FOR C-39 FLUTE SAMPLES

Flat Crush Range, p.s.i.	VV	WW	Frequency XX	YY	ZZ	Total	Cumulative Total	Cumulative Per Cent
35.0-35.9			1			1	1	0.4
36.0-36.9			0		1	1	2	0.9
37.0-37.9			0		0	0	2	0.9
38.0-38.9			0		1	1	3	1.3
39.0-39.9			0	2	4	6	9	3.9
40.0-40.9	1		6	1	7	15	24	10.5
41.0-41.9	0		7	0	9	16	40	17.5
42.0-42.9	1	2	11	1	5	20	60	26.3
43.0-43.9	3	7	4	2	6	22	82	36.0
44.0-44.9	8	3	5	7	4	27	109	47.8
45.0-45.9	7	11	3	4	4	29	138	60.5
46.0-46.9	6	5	2	2	3	18	156	68.4
47.0-47.9	5	9	3	0	3	20	176	77.2
48.0-48.9	12	5	3	0	1	21	197	86.4
49.0-49.9	3	4	2	0	1	10	207	90.8
50.0-50.9	5	5	1	0		11	218	95.6
51.0-51.9	2	3		0		5	223	97.8
52.0-52.9	1	2		1		4	227	99.6
53.0-53.9		0				0	227	99.6
54.0-54.9		0				0	227	99.6
55.0-55.9		1				1	228	100.0
Total	54	57	48	20	49	228		

distributions of both combined board and Concora flat crush would be expected under these conditions.

With the above in mind, the Concora frequency distributions for these plants are shown in Table XVI and the following values are abstracted from the table:

Concora Flat Crush, p.s.i.	Samples Having Concora Tests Lower Than Indicated Value		No. of Plants
	Number	Per Cent	
31	1	0.4	1
32	3	1.3	2
33	24	10.5	4
34	54	23.7	5

As may be noted, 1.3% of the samples exhibited Concora flat-crush values lower than 32 p.s.i., 10.5% lower than 33 p.s.i., and 23.7% were lower than 34 p.s.i.

The scatter diagram for the C-39 flute results is shown in Fig. 4 and the regression line obtained is given below:

$$y = 15.059 + 0.838 x \quad (4)$$

where y = C-39 flute combined board flat crush, p.s.i.

and x = Concora flat crush, p.s.i.

The correlation coefficient for the regression line shown in Fig. 4 was +0.62--approximately the same as was obtained for the regular C-flute data. However, the intercept and slope of the regression line were quite different from those obtained for the regular C--flute data.

Comparisons of computed and estimated combined board flat-crush values were made using Equation (4). The results are summarized in Table XVII. Despite the somewhat lower correlation coefficient for the C-39 flute samples

TABLE XVI
CONCORA FLAT CRUSH DISTRIBUTION FOR C-39 FLUTE SAMPLES

Concora Range, p.s.i.	VW	Frequency WX	YY	ZZ	Total	Cumulative Total	Cumulative Per Cent
30.0-30.9				1	1	1	0.4
31.0-31.9		2		0	2	3	1.3
32.0-32.9	3	5	4	9	21	24	10.5
33.0-33.9	1	8	8	9	30	54	23.7
34.0-34.9	11	5	2	11	35	89	39.0
35.0-35.9	8	7	3	5	37	126	55.3
36.0-36.9	7	9	3	3	30	156	68.4
37.0-37.9	6	4		0	16	172	75.4
38.0-38.9	8	5		6	27	199	87.3
39.0-39.9	4	3		3	13	212	93.0
40.0-40.9	3			2	10	222	97.4
41.0-41.9	3				3	225	98.7
42.0-42.9	2				2	227	99.6
43.0-43.9	1				1	228	100.0
Total	54	48	20	49	228		

TABLE XVII
SUMMARY OF COMPARISONS OF ESTIMATED AND OBSERVED COMBINED BOARD FLAT CRUSH FOR C-39 FLUTE SAMPLES

Box Plants	No. of Samples	Average Difference Between Computed and Estimated Flat Crush, p.s.i.	Number of Estimates Within Indicated Range										Maximum Deviation, p.s.i.
			± 1 p.s.i.	± 2 p.s.i.	± 3 p.s.i.	± 4 p.s.i.	± 5 p.s.i.						
WV	54	1.5	21	38.9	40	74.1	46	85.2	49	90.7	52	96.3	7.0
WN	57	2.0	16	28.1	30	52.6	49	86.0	52	91.2	55	96.5	8.1
XX	48	2.5	14	29.2	21	43.8	31	64.6	41	75.9	43	89.6	10.5
YY	20	2.2	3	15.0	12	60.0	16	80.0	17	85.0	19	95.0	6.1
ZZ	49	2.1	19	38.8	27	55.1	36	73.5	45	91.8	45	91.8	6.7
Composite (n=228)		2.0	73	32.0	130	57.0	178	78.1	204	89.5	214	93.8	10.5

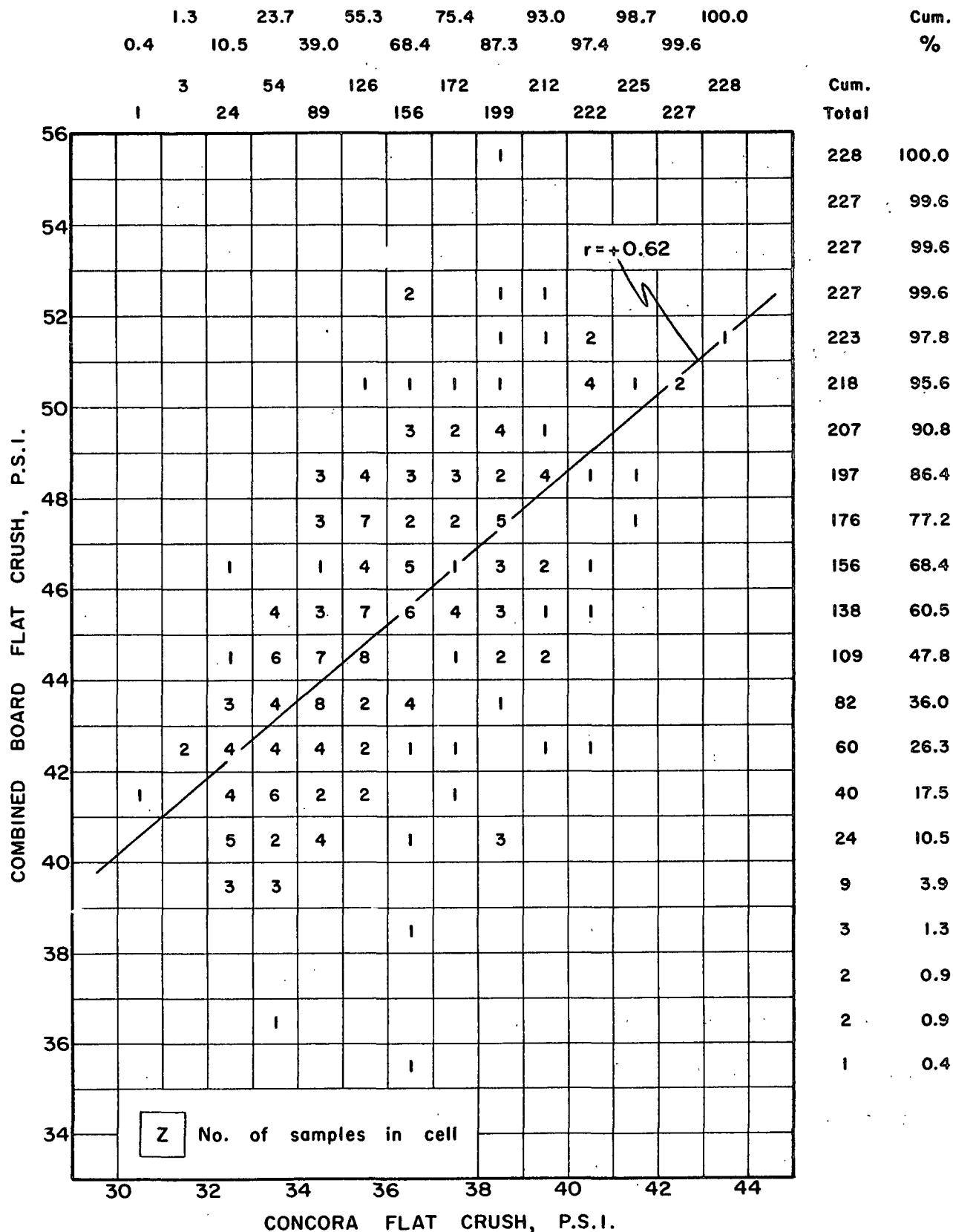


Figure 4. Relationship Between Concor and C-39 Flute

Combined Board Flat Crush

(as compared to regular C-flute) it may be noted that agreement between estimated and observed flat-crush values was considerably better for the C-39 flute samples. Referring to the table, it may be noted that

(a) The composite average difference between computed and observed C-39 flute combined board flat crush was 2.0 p.s.i. Comparable figures for A, B, and C-flute were 1.6, 4.9, and 3.2 p.s.i., respectively.

(b) For the composite of all plants approximately 32% of the comparisons were within ± 1 p.s.i. of the observed value and 78% were within ± 3 p.s.i. Comparable figures for A-, B-, and C-flute are given below:

	A-flute	B-flute	C-flute
± 1 p.s.i.	40%	12%	19%
± 3 p.s.i.	87%	34%	57%

The above indicates that estimates of C-39 flute combined board flat crush from Concora tests were relatively better than the correlations for either the B- or C-flute regular samples. General application of the regression equation to production from other plants cannot be recommended, however, until some check on the relationship is made utilizing a broader sampling of mediums and converters.

It is tempting on the basis of the above results to conclude that conversion variability (materials and equipment and technique) among different box plants is the real cause for the differences in correlation between the various flutes--since the C-39 flute samples represented a far more homogeneous sample than the other flutes. The line of reasoning implies, then, that conversion conditions are either more critical for B- and C-flute or controlled to a lesser degree to explain the poorer correlations for B- and C-flute flat

crush. However, it must be cautioned that differences in mechanism of failure may also contribute to the poorer correlations for B- and C-flute.

In conclusion, the C-39 flute results may be summarized as follows:

1. Average individual plant values for combined board flat crush ranged from 42.9 to 47.2 p.s.i. with an over-all average of 45.2 p.s.i.
2. Average individual plant values for Concora flat crush ranged from 34.0 to 37.3 p.s.i. with an over-all average of 35.9 p.s.i.
3. With regard to combined board flat crush, the frequency distribution indicated that about 4% of the samples gave flat-crush values lower than 40 p.s.i., 10.5% were lower than 41 p.s.i., and 17.5% were lower than 42 p.s.i.
4. The Concora frequency distribution indicated that only 3 of the 228 samples (or 1.3%) gave Concora values lower than 32 p.s.i. and 10.5% were lower than 33 p.s.i.
5. When Concora and combined board flat-crush values were correlated, it was found that the average difference between estimated and observed flat-crush values was 2.0 p.s.i. For the composite of all plants approximately 32% of the comparisons were within ± 1 p.s.i. of the observed value and 78% were within ± 3 p.s.i.

PART 5. INDIVIDUAL PLANT CORRELATIONS

In preparing the composite frequency distributions for combined board flat crush and Concora, frequency distributions for the individual plants were also prepared. As a matter of interest, the individual plant distributions are summarized in tabular form in Appendix B in alphabetical order.

Correlations were also performed for each individual plant participating in the study excluding Plants L, M, U and UU which submitted too few samples for meaningful analysis. These results are summarized in Tables XVIII through XXI for the four major flutes. In each table may be found

- (a) the individual plant correlation coefficients,
- (b) the intercept (a) and slope (b) for each individual plant correlation,
- (c) the average difference between computed and estimated combined board flat crush for each individual plant using its regression equation,
- (d) the composite correlation results as previously discussed.

In reviewing the above, it should be kept in mind that the individual plant correlations are based on fewer samples than the composite; therefore, they may be influenced more by the range of values included or extremely deviant values representing errors in sampling, conversion deficiencies, etc. It is also to be expected that the regression line for each individual plant will yield somewhat better estimates of combined board flat crush than the composite regression line.

In the ideal case, it would be desirable if the regression line for each plant were approximately equivalent to the composite regression line---

TABLE XVIII
INDIVIDUAL BOX PLANT CORRELATIONS FOR A-FLUTE PLANTS

Box Plant	No. of Samples	Correlation Coefficient, (05 level)	Significance (05 level)	Regression Constants Intercept	Slope	Average Diff. Between Computed and Observed Flat Crush Values, p.s.i.
A	54	+0.60	Yes	+11.82	+0.582	1.2
C	54	+0.73	Yes	+3.75	+0.764	1.1
F	54	+0.67	Yes	-16.45	+1.347	1.9
G	54	+0.85	Yes	+7.55	+0.686	1.1
J	36	+0.91	Yes	+10.38	+0.643	1.3
P	55	+0.58	Yes	+13.79	+0.552	1.8
Q	16	+0.80	Yes	+2.53	+0.858	1.9
V	54	+0.56	Yes	+10.86	+0.601	1.4
W	54	+0.79	Yes	+1.33	+0.864	1.6
AA	52	+0.75	Yes	+7.09	+0.728	0.9
BB	55	+0.45	Yes	+24.72	+0.266	0.9
CC	54	+0.51	Yes	+15.63	+0.467	1.0
HH	48	+0.46	Yes	+16.58	+0.457	1.4
SS	44	+0.68	Yes	+3.58	+0.777	1.1
TT	13	+0.36	Yes	+4.45	+0.818	2.7
Composite regression	697	+0.75	Yes	+6.36	+0.730	1.6

TABLE XIX
INDIVIDUAL BOX PLANT CORRELATIONS FOR B-FLUTE PLANTS

Box Plant	No. of Samples	Correlation Coefficient (05 level)	Regression Intercept	Constants Slope	Average Difference Between Computed and Observed Flat Crush Values, p.s.i.	
B	53	+0.42	Yes	+26.21	+0.666	2.3
D	54	+0.48	Yes	+24.96	+0.444	1.4
H	54	+0.60	Yes	+ 4.17	+0.891	2.9
I	54	+0.72	Yes	+13.05	+0.726	1.5
K	54	+0.50	Yes	+ 6.80	+1.232	3.1
L			Insufficient sample			
M			Insufficient sample			
R	54	+0.73	Yes	- 3.30	+1.392	3.6
S	26	+0.84	Yes	-37.03	+2.559	3.8
X	54	+0.80	Yes	-21.65	+1.934	4.0
Y	54	+0.67	Yes	+ 4.05	+1.078	2.2
DD	53	-0.03	No	+51.61	-0.061	3.7
EE	55	+0.24	No	+21.63	+0.846	4.7
FF	54	+0.08	No	+48.19	+0.041	2.7
II	38	+0.72	Yes	- 1.05	+1.235	2.7
JJ	24	+0.58	Yes	+ 2.62	+1.270	2.0
UU			Insufficient sample			
Composite regression	689	+0.56	Yes	- 3.00	+1.372	4.9

TABLE XX
INDIVIDUAL BOX PLANT CORRELATIONS FOR C-FLUTE REGULAR PLANTS

Box Plant	No. of Samples	Correlation Coefficient	Significance (05 level)	Regression Intercept	Constants Slope	Average Difference Between Computed and Observed Flat Crush Values, p.s.i.
E	54	+0.61	Yes	+ 4.96	+0.914	1.5
N	54	+0.60	Yes	- 3.01	+1.268	3.8
O	11	+0.38	No	+18.99	+0.697	1.6
T	50	+0.81	Yes	+8.65	+0.966	1.6
U			Insufficient samples			
Z	53	+0.67	Yes	+9.06	+1.033	3.1
GG	55	+0.58	Yes	+12.99	+0.938	2.0
KK	56	+0.78	Yes	+ 3.91	+1.103	2.0
LL	23	+0.67	Yes	+11.06	+0.917	1.7
MM	53	+0.26	Yes	+34.68	+0.349	1.9
NN	57	+0.33	Yes	+22.82	+0.584	2.0
OO	55	+0.62	Yes	+ 8.90	+1.087	2.4
PP	54	+0.25	No	+26.58	+0.557	2.5
QQ	53	+0.72	Yes	- 3.89	+1.343	2.1
RR	54	+0.51	Yes	+13.46	+0.963	1.9
Composite regression	688	+0.65	Yes	- 2.79	+1.340	3.2

TABLE XXI
INDIVIDUAL BOX PLANT CORRELATIONS FOR C-39 FLUTE PLANTS

Box Plant	No. of Samples	Correlation Coefficient	Significance (05 level)	Regression Intercept	Constants Slope	Average Difference Between Computed and Observed Flat Crush Values, p.s.i.
VV	54	+0.60	Yes	+25.02	+0.589	1.4
WW	57	+0.75	Yes	+10.36	+1.008	1.5
XX	48	+0.32	Yes	+28.16	+0.431	2.0
YY	20	+0.40	Yes	+18.69	+0.751	1.9
ZZ	49	+0.61	Yes	+18.59	+0.694	1.8
Composite regression	228	+0.62	Yes	+15.06	+0.833	2.0

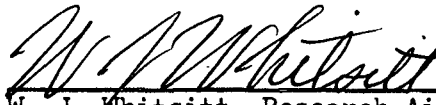
i.e., not affected by varying fiber furnish, machine or corrugating conditions. Some variation in the slope and intercept of the individual regression lines from the composite relationship is expected; however, extreme deviations cast doubt on the premise that a single sound relationship exists for all plants.

From this standpoint, the A- and C-39 flute results may not be unsatisfactory although some skepticism might be expressed regarding a few of the individual plant correlations. The B- and C--flute results appear less satisfactory on this score and appear to confirm earlier remarks regarding the results obtained with the composite regression lines for these flutes.

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APPENDIX A

INDIVIDUAL SAMPLE RESULTS BY PLANT

The test results for each plant are summarized in the tables of this appendix. The tables are arranged in alphabetical order by plant code letter and the following abbreviations were used to denote type of medium:

SC--semichemical

K--kraft

B--bogus

C--chip

TABLE A-1

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT A
(A-Flute)Page A-2
Report OneFourdrinier Kraft Board Institute, Inc.
Project 1108-285

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
A-1	SC	38/38	9-13-60	420	Starch	38.4	31.2	34.4	36.0	30.8	32.5 (8-0-8)
A-2	SC	38/38	9-12-60	400	Starch	38.4	32.4	35.8	35.8	31.4	33.4 (8-0-8)
A-3	SC	42/42	9-16-60	420	Starch	36.6	30.0	32.8	35.8	28.8	31.7 (8-0-8)
A-4	SC	38/38	9-19-60	400	Starch	37.8	29.4	33.6	34.8	33.4	30.1 (8-0-8)
A-5	SC	38/38	9-20-60	390	Starch	39.0	27.6	34.1	36.2	25.6	32.4 (8-0-8)
A-6	SC	42/42	9-21-60	420	Starch	34.2	27.0	30.3	34.0	25.0	29.9 (8-0-8)
A-7	SC	42/42	9-19-60	400	Starch	39.6	33.6	37.1	35.0	28.4	31.7 (8-0-8)
A-8	SC	42/42	9-22-60	445	Starch	37.2	32.4	34.7	35.4	27.2	30.8 (8-0-8)
A-9	SC	42/42	9-23-60	420	Starch	33.6	28.7	31.6	31.4	27.4	29.8 (8-0-8)
A-10	SC	42/42	10- 3-60	430	Starch	34.8	29.4	32.2	33.4	27.2	29.6 (8-0-8)
A-11	SC	42/42	10- 6-60	430	Starch	39.6	33.0	36.4	36.6	28.8	32.7 (8-0-8)
A-12	SC	42/42	10- 6-60	440	Starch	42.0	34.8	37.5	35.2	29.6	32.3 (8-0-8)
A-13	SC	38/38	10-10-60	430	Starch	37.2	30.6	33.4	33.4	22.2	27.5 (8-0-8)
A-14	SC	42/42	10-14-60	380	Starch	39.6	32.4	35.5	36.2	24.0	31.2 ^a (8-0-8)
A-15	SC	42/42	10-14-60	440	Starch	41.4	33.0	37.0	33.2	28.0	30.6 (8-0-8)
A-16	SC	38/38	10-17-60	450	Starch	37.8	32.4	35.2	36.6	25.0	31.6 (8-0-8)
A-17	SC	38/38	10-19-60	470	Starch	34.8	32.4	33.9	36.6	31.2	32.7 (8-0-8)
A-18	SC	38/38	10-20-60	480	Starch	39.0	30.0	34.5	33.6	29.8	31.4 (8-0-8)
A-19	SC	38/38	11- 1-60	460	Starch	37.8	30.0	33.9	36.2	28.8	31.8 (8-0-8)
A-20	SC	38/38	11- 2-60	420	Starch	37.8	30.0	34.9	31.8	28.4	29.9 (8-0-8)
A-21	SC	42/42	11- 4-60	440	Starch	34.2	29.4	32.4	52.0	28.8	34.2 (8-0-8)
A-22	SC	42/42	11- 7-60	500	Starch	34.2	31.8	33.4	33.0	27.6	30.5 (8-0-8)
A-23	SC	42/42	11- 7-60	390	Starch	37.2	32.4	33.8	34.4	23.0	31.4 (8-0-8)
A-24	SC	42/42	11- 8-60	450	Starch	36.6	30.6	33.2	34.8	24.6	30.4 (8-0-8)
A-25	SC	42/42	11- 9-60	410	Starch	39.0	31.2	34.9	36.2	30.8	33.3 (8-0-8)
A-26	SC	38/38	11-10-60	330	Starch	39.0	27.0	33.4	33.8	26.8	29.5 (8-0-8)
A-27	SC	42/42	11-16-60	445	Starch	35.4	29.4	32.8	38.2	32.2	34.5 (8-0-8)
A-28	SC	42/42	12-15-60	490	Starch	39.0	31.8	34.8	35.6	29.6	32.7 (8-0-8)
A-29	SC	42/42	12-16-60	500	Starch	40.2	30.6	35.5	33.4	30.6	31.8 (8-0-8)
A-30	SC	42/42	12-21-60	490	Starch	37.2	30.0	33.5	33.4	27.6	30.4 (8-0-8)

^a One or more specimens exhibited cracked flutes.

TABLE A-1 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT A
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
A-31	SC	42/42	12-23-60	500	Starch	39.6	30.6	35.3	35.4	30.6	32.6(8-0-8)
A-32	SC	38/38	12-23-60	470	Starch	34.8	31.2	33.1	32.2	28.6	30.9(8-0-8)
A-33	SC	38/38	12-27-60	500	Starch	36.6	30.0	33.1	32.0	28.8	30.6(8-0-8)
A-34	SC	38/38	1- 3-61	480	Starch	37.2	32.4	34.9	35.0	31.8	33.1(8-0-8)
A-35	SC	38/38	1- 3-61	460	Starch	35.4	28.8	32.7	34.0	27.6	30.6(8-0-8)
A-36	SC	38/38	1- 3-61	490	Starch	37.8	30.0	33.2	36.4	27.0	32.7(8-0-8)
A-37	SC	42/42	1- 4-61	410	Starch	33.6	28.2	30.5	32.6	28.6	30.6(8-0-8)
A-38	SC	42/42	1- 5-61	410	Starch	33.6	28.8	31.1	30.6	26.6	29.1(8-0-8)
A-39	SC	42/42	1- 6-61	450	Starch	35.4	30.6	33.0	34.0	26.8	30.2(8-0-8)
A-40	SC	42/42	1- 6-61	460	Starch	34.2	31.2	32.3	33.4	29.0	30.4(8-0-8)
A-41	SC	38/38	1- 9-61	500	Starch	34.8	30.6	33.0	34.6	30.8	32.2(8-0-8)
A-42	SC	38/38	1-10-61	500	Starch	38.4	33.0	35.8	36.8	32.8	35.2(8-0-8)
A-43	SC	38/38	1-13-61	500	Starch	42.6	36.6	39.2	40.4	32.2	37.0(8-0-8)
A-44	SC	38/38	2- 1-61	390	Starch	42.0	35.4	38.2	39.0	29.4	34.2(8-0-8)
A-45	SC	42/42	2- 9-61	450	Starch	36.0	31.8	33.7	34.2	25.4	31.0(8-0-8)
A-46	SC	38/38	2-10-61	300	Starch	38.4	33.6	36.2	38.0	32.0	34.4(8-0-8)
A-47	SC	38/38	2-13-61	430	Starch	41.4	33.0	38.2	34.2	30.4	32.8(8-0-8)
A-48	SC	42/42	2-16-61	440	Starch	36.0	31.8	34.5	32.0	24.8	29.3(8-0-8)
A-49	SC	42/42	2-23-61	500	Starch	40.8	33.0	36.5	35.2	29.0	31.8(8-0-8)
A-50	SC	38/38	3- 3-61	390	Starch	39.0	33.0	36.8	38.4	31.2	35.3(8-0-8)
A-51	SC	38/38	3-22-61	370	Starch	38.4	35.4	36.9	35.8	29.2	32.0(8-0-8)
A-52	SC	38/38	3-22-61	--	Starch	38.4	33.0	36.8	37.2	34.6	35.6(8-0-8)
A-53	SC	38/38	3-23-61	480	Starch	42.0	33.6	37.0	37.6	30.4	33.2(8-0-8)
A-54	SC	38/38	3-23-61	500	Starch	42.0	33.0	36.8	39.0	33.0	36.0(8-0-8)

TABLE A-2

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT B
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
B-1	SC	42/42	9- 9-60	420	Starch	37.2	33.0	35.0	54.0	33.6	43.7	(9-1-8)
B-2	SC	38/38	9-12-60	460	Starch	40.2	33.6	36.3	60.4	47.0	54.3	(10-2-8)
B-3	SC	42/42	9-15-60	490	Starch	39.0	34.8	36.4	58.0	49.6	53.4	(8-0-8)
B-5	SC	38/38	9-26-60	480	Starch	38.4	25.8	33.8	57.4	46.4	51.8	(8-0-8)
B-6	SC	38/38	9-26-60	470	Starch	39.0	31.2	34.7	59.2	51.0	55.5	(8-0-8)
B-7	SC	38/38	9-27-60	470	Starch	38.4	34.8	36.4	60.6	50.2	54.0	(8-0-8)
B-8	SC	38/38	9-27-60	460	Starch	40.8	34.2	36.0	60.2	53.4	56.4	(8-0-8)
B-9	SC	42/42	9-29-60	470	Starch	37.8	25.8	33.2	57.6	48.2	53.5	(8-0-8)
B-10	SC	42/42	10- 5-60	450	Starch	35.4	28.2	30.4	52.4	41.8	47.4	(8-0-8)
B-11	SC	42/42	10- 5-60	450	Starch	34.8	26.4	29.6	49.2	37.8	44.0	(8-0-8)
B-12	SC	42/42	10- 6-60	460	Starch	34.2	22.8	29.6	50.4	40.2	46.0	(9-2-8)
B-13	SC	42/42	10- 6-60	450	Starch	39.0	30.0	34.5	56.0	43.8	51.0	(8-0-8)
B-14	SC	42/42	10-18-60	430	Starch	35.4	31.2	33.7	54.2	44.4	50.6	(8-0-8)
B-15	SC	38/38	10-19-60	450	Starch	37.8	28.8	32.9	57.2	44.8	50.6	(8-0-8)
B-16	SC	42/42	10-20-60	470	Starch	37.2	29.4	33.2	56.2	47.0	51.0	(8-0-8)
B-17	SC	42/42	10-21-60	450	Starch	40.8	31.8	36.2	59.2	42.4	50.0	(8-0-8)
B-18	SC	42/42	10-24-60	470	Starch	38.4	31.8	34.5	52.0	46.6	49.6	(8-0-8)
B-19	SC	42/42	11- 2-60	420	Starch	35.4	30.0	32.7	52.2	45.6	49.6	(8-0-8)
B-20	SC	42/42	11-17-60	450	Starch	38.4	33.6	35.8	53.6	44.2	49.8	(8-0-8)
B-21	SC	42/42	11-18-60	460	Starch	39.0	27.0	33.1	58.0	48.0	52.9	(8-0-8)
B-22	SC	42/42	11-21-60	450	Starch	34.2	31.8	32.8	56.2	51.0	53.6	(8-0-8)
B-23	SC	42/42	11-23-60	460	Starch	36.6	37.6	33.4	55.8	42.0	48.4	(8-0-8)
B-24	SC	42/42	11-29-60	470	Starch	34.8	30.6	33.4	50.0	39.0	43.9	(8-0-8)
B-25	SC	38/38	12- 7-60	450	Starch	34.2	28.8	31.3	51.6	40.8	46.4	(8-0-8)
B-26	SC	42/42	12- 8-60	500	Starch	37.8	31.2	34.8	54.8	49.2	51.6	(8-0-8)
B-27	SC	42/42	12-14-60	470	Starch	36.6	31.8	34.7	55.4	43.8	49.8	(8-0-8)
B-28	SC	42/42	12-14-60	450	Starch	36.0	31.8	34.1	54.0	38.0	47.2	(8-0-8)
B-29	SC	42/42	12-15-60	480	Starch	36.6	30.0	33.3	54.2	35.6	44.5	(9-1-8)
B-30	SC	38/38	12-16-60	480	Starch	40.8	33.0	37.5	54.2	39.4	49.2	(8-0-8)
B-31	SC	42/42	12-19-60	450	Starch	38.4	33.0	35.4	52.2	45.6	49.1	(8-0-8)

TABLE A-2---(Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT B
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
B-32	SC	42/42	12-21-60	440	Starch	38.4	27.0	33.3	55.6	43.4	47.0 (8-0-8)
B-33	SC	42/42	12-22-60	440	Starch	36.0	32.4	34.3	49.4	43.8	46.2 (8-0-8)
B-34	SC	42/42	12-27-60	440	Starch	43.8	35.4	39.4	51.8	47.2	49.9 (8-0-8)
B-35	SC	42/42	12-28-60	420	Starch	37.2	32.4	35.0	48.6	39.4	44.9 (8-0-8)
B-36	SC	42/42	1- 4-61	460	Starch	34.2	28.8	31.0	49.2	39.0	44.2 (8-0-8)
B-37	SC	42/42	1- 5-61	500	Starch	40.8	29.4	34.5	49.4	42.8	47.8 (8-0-8)
B-38	SC	42/42	1- 7-61	480	Starch	40.8	35.4	37.9	56.4	50.0	53.0 (12-6-6)
B-39	SC	42/42	1- 7-61	450	Starch	34.8	29.4	31.6	47.6	39.8	45.4 (11-6-5)
B-40	SC	42/42	1- 9-61	470	Starch	35.4	31.8	34.1	48.0	40.0	43.8 (8-0-8)
B-41	SC	42/42	1- 9-61	420	Starch	39.0	33.0	36.9	57.4	45.0	50.4 (8-0-8)
B-42	SC	42/42	1-11-61	370	Starch	40.2	30.0	35.6	60.6	47.0	52.3 (8-0-8)
B-43	SC	42/42	1-25-61	400	Starch	37.2	32.4	34.8	53.0	44.0	49.2 (8-0-8)
B-44	SC	42/42	1-26-61	430	Starch	36.0	32.4	33.8	53.4	45.0	47.3 (9-1-8)
B-45	SC	38/38	1-27-61	390	Starch	38.4	31.8	35.2	54.0	41.9	47.7 (8-0-8)
B-46	SC	42/42	1-30-61	400	Starch	39.0	32.4	36.3	55.2	40.8	48.4 (8-0-8)
B-48	SC	42/42	2- 7-61	430	Starch	39.6	36.0	37.7	52.6	45.2	48.9 (8-0-8)
B-49	SC	42/42	2-10-61	420	Starch	37.2	33.0	35.2	52.6	46.4	49.5 (8-0-8)
B-50	SC	42/42	2-14-61	450	Starch	39.0	34.2	36.2	55.8	48.2	50.6 (8-0-8)
B-51	SC	38/38	2-14-61	500	Starch	34.8	31.2	33.3	49.0	42.6	44.8 (8-0-8)
B-52	SC	42/42	2-15-61	470	Starch	38.4	31.8	35.6	55.2	41.8	50.1 (8-0-8)
B-53	SC	42/42	2-15-61	470	Starch	38.4	31.8	34.3	55.6	47.2	49.9 (8-0-8)
B-54	SC	42/42	2-17-61	500	Starch	40.2	34.8	37.3	53.4	47.2	49.8 (8-0-8)
B-55	SC	42/42	2-20-61	500	Starch	37.8	32.4	35.0	49.2	43.0	45.6 (8-0-8)

TABLE A-3

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT C
(C-Flute)Fourdrinier Kraft Board Institute, Inc.
Project 1108-285

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
C-1	SC	42/42	9-6-60	440	Starch	37.2	33.0	34.6	32.2	27.2	30.0 (8-0-8)
C-2	SC	42/42	9-7-60	450	Starch	38.4	28.8	34.1	31.2	27.6	29.2 (8-0-8)
C-3	SC	42/42	9-8-60	440	Starch	36.6	32.4	33.7	30.6	26.2	29.2 (8-0-8)
C-4	SC	42/42	9-12-60	440	Starch	36.0	27.6	31.3	32.0	29.0	30.0 (8-0-8)
C-5	SC	42/42	9-14-60	440	Starch	34.8	30.0	32.2	31.6	27.8	29.5 (8-0-8)
C-6	SC	42/42	9-16-60	460	Starch	38.4	31.2	34.9	33.2	29.2	31.5 (8-0-8)
C-7	SC	42/42	9-23-60	420	Starch	37.2	28.8	33.5	30.6	26.0	28.5 (8-0-8)
C-8	SC	42/42	9-26-60	480	Starch	34.2	31.2	32.6	31.2	28.2	29.8 (8-0-8)
C-9	SC	42/42	9-30-60	450	Starch	36.0	28.2	32.3	31.8	28.2	29.6 (8-0-8)
C-10	SC	38/38	10-4-60	460	Starch	32.4	29.4	30.5	30.6	24.8	28.6 (8-0-8)
C-11	SC	42/42	9-30-60	480	Starch	31.8	27.0	30.5	27.8	23.8	25.6 (8-0-8)
C-12	SC	42/42	10-6-60	470	Starch	35.4	32.4	33.9	30.2	26.6	28.4 (8-0-8)
C-13	SC	42/42	10-18-60	450	Starch	34.8	28.8	31.5	30.8	26.4	28.0 (8-0-8)
C-14	SC	42/42	10-21-60	470	Starch	41.4	35.4	39.1	36.2	31.2	33.8 (8-0-8)
C-15	SC	42/42	10-24-60	470	Starch	40.2	32.4	35.7	34.6	29.0	31.8 (8-0-8)
C-16	SC	42/42	10-24-60	470	Starch	39.6	32.4	35.6	33.8	29.6	31.5 (8-0-8)
C-17	SC	42/42	10-25-60	420	Starch	39.0	34.2	35.8	34.2	28.4	32.3 (8-0-8)
C-18	SC	42/42	10-26-60	450	Starch	38.4	33.6	36.1	35.0	29.2	33.0 (8-0-8)
C-19	SC	42/42	11- 9-60	400	Starch	38.4	31.8	34.6	33.2	28.2	30.8 (8-0-8)
C-20	SC	42/42	11-10-60	430	Starch	39.6	28.8	35.0	36.8	29.2	32.4 (8-0-8)
C-21	SC	42/42	11-14-60	420	Starch	39.0	32.4	34.8	30.0	25.0	27.6 (8-0-8)
C-22	SC	42/42	11-14-60	420	Starch	39.0	30.0	35.8	34.8	30.6	33.0 (8-0-8)
C-23	SC	42/42	11-15-60	420	Starch	39.0	33.6	35.8	35.2	30.0	32.6 (8-0-8)
C-24	SC	38/38	11-16-60	480	Starch	38.4	33.6	35.7	35.6	28.4	32.2 (8-0-8)
C-25	SC	42/42	11-16-60	500	Starch	39.0	30.0	33.4	28.8	25.2	26.9 (8-0-8)
C-26	SC	42/42	11-21-60	430	Starch	39.0	29.4	33.0	33.8	30.2	32.0 (8-0-8)
C-27	SC	42/42	11-29-60	450	Starch	38.4	30.0	34.2	33.4	36.2	29.0 (8-0-8)
C-28	SC	42/42	12- 5-60	460	Starch	39.0	30.6	34.3	33.8	27.2	30.7 (8-0-8)
C-29	SC	42/42	12- 8-60	470	Starch	37.2	31.2	34.1	31.4	26.6	28.8 (8-0-8)

TABLE A-3 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT C
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
C-30	SC	42/42	12-19-60	390	Starch	35.4	31.2	33.5	31.0	26.2	28.5 (8-0-8)
C-31	SC	42/42	12-23-60	460	Starch	38.4	32.4	36.4	31.0	27.0	29.8 (8-0-8)
C-32	SC	38/38	12-23-60	460	Starch	39.0	31.8	35.8	35.4	25.0	30.5 (8-0-8)
C-33	SC	38/38	12-27-60	460	Starch	40.2	31.2	35.0	32.4	28.6	30.5 (8-0-8)
C-34	SC	42/42	12-28-60	460	Starch	40.8	33.0	35.4	32.0	27.4	29.7 (8-0-8)
C-35	SC	38/38	12-29-60	460	Starch	39.6	33.0	35.8	33.2	27.8	29.9 (8-0-8)
C-36	SC	42/42	12-30-60	470	Starch	39.0	34.2	36.4	30.6	27.6	29.6 (8-0-8)
C-37	SC	42/42	1-11-61	220	Starch	41.4	33.6	36.2	35.8	30.4	34.1 (8-0-8)
C-38	SC	42/42	1-11-61	450	Starch	35.4	33.0	34.0	31.0	26.2	29.1 (8-0-8)
C-39	SC	42/42	1-11-61	450	Starch	34.8	27.6	30.2	30.0	22.2	25.8 (8-0-8)
C-40	SC	38/38	1-11-61	330	Starch	37.2	28.2	32.0	30.2	26.6	28.5 (8-0-8)
C-41	SC	42/42	1-12-61	350	Starch	39.0	31.8	34.4	32.4	26.4	30.0 (8-0-8)
C-42	SC	42/42	1-12-61	250	Starch	37.8	33.6	36.0	34.2	28.6	30.3 (8-0-8)
C-43	SC	42/42	1-12-61	360	Starch	37.8	31.2	35.4	31.6	27.2	29.6 (8-0-8)
C-44	SC	42/42	1-12-61	330	Starch	34.2	30.0	32.2	33.0	25.6	29.2 (8-0-8)
C-45	SC	38/42	1-13-61	450	Starch	34.8	30.0	32.6	29.4	25.8	27.9 (8-0-8)
C-46	SC	38/42	1-13-61	450	Starch	37.8	35.4	36.3	32.6	29.0	30.8 (8-0-8)
C-47	SC	42/42	2- 9-61	400	Starch	40.2	34.8	37.6	35.2	29.8	32.3 (8-0-8)
C-48	SC	42/42	2-10-61	410	Starch	37.8	33.0	35.2	31.2	28.6	29.8 (8-0-8)
C-49	SC	42/42	2-17-61	380	Starch	39.0	32.4	36.0	32.8	29.2	30.8 (8-0-8)
C-50	SC	42/42	2-15-61	400	Starch	38.4	34.2	36.4	37.6	30.6	34.3 (8-0-8)
C-51	SC	42/42	2-16-61	400	Starch	40.8	36.0	38.2	36.0	30.0	32.9 (8-0-8)
C-52	SC	38/38	2-17-61	370	Starch	37.8	30.6	35.8	32.2	26.8	30.1 (8-0-8)
C-53	SC	42/42	2-27-61	350	Starch	33.6	30.6	32.3	29.2	23.8	26.2 (8-0-8)
C-54	SC	42/38	2-28-61	330	Starch	36.6	33.0	34.2	30.0	26.6	28.2 (8-0-8)

TABLE A-4

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT D
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
D-1	SC	42/42	9-6-60	450	Starch	37.8	34.2	36.1	43.2	36.8	40.6 (8-0-8)
D-2	SC	42/42	9-7-60	450	Starch	36.0	31.2	33.2	41.8	36.8	38.8 (9-1-8)
D-3	SC	38/38	9-15-60	500	Starch	37.8	32.4	34.8	42.4	39.4	40.8 (8-0-8)
D-4	SC	42/42	9-22-60	450	Starch	40.8	36.0	38.5	43.0	36.8	40.1 (8-0-8)
D-5	SC	38/42	9-22-60	500	Starch	37.8	33.0	34.3	42.6	37.0	40.0 (10-2-8)
D-6	SC	42/42	9-23-60	460	Starch	38.6	33.0	35.2	45.0	38.4	41.6 (9-1-8)
D-7	SC	38/38	9-26-60	465	Starch	37.2	32.4	34.8	44.4	36.8	41.0 (8-0-8)
D-8	SC	38/38	9-27-60	460	Starch	40.8	32.4	35.5	42.4	37.6	39.9 (8-0-8)
D-9	SC	38/38	9-30-60	450	Starch	38.4	30.6	34.5	41.4	36.0	38.6 (9-1-8)
D-10	SC	38/38	10-6-60	500	Starch	38.4	33.0	35.4	46.0	35.6	40.7 (9-1-8)
D-11	SC	38/42	10-10-60	500	Starch	38.4	30.0	35.5	39.8	34.6	37.1 (8-0-8)
D-12	SC	42/42	10-14-60	450	Starch	37.8	34.2	36.2	41.2	37.4	39.5 (8-0-8)
D-13	SC	38/38	10-17-60	490	Starch	33.6	24.6	29.9	42.8	29.2	36.6 (8-0-8)
D-14	SC	38/38	10-18-60	420	Starch	31.8	28.2	30.6	42.0	38.8	40.0 (12-4-8)
D-15	SC	38/38	10-18-60	510	Starch	37.8	31.8	35.3	44.8	36.2	40.2 (13-5-8)
D-16	SC	38/38	10-19-60	500	Starch	31.2	27.6	30.3	40.4	30.2	36.0 (8-0-8)
D-17	SC	42/42	10-24-60	410	Starch	38.4	30.6	33.8	45.8	36.0	39.9 (8-0-8)
D-18	SC	42/42	10-25-60	430	Starch	37.2	29.4	33.2	44.2	38.0	40.9 (12-4-8)
D-19	SC	42/42	11- 3-60	460	Starch	36.0	29.4	32.5	41.6	34.0	38.9 (8-0-8)
D-20	SC	38/38	11- 4-60	500	Starch	33.6	28.8	31.7	42.6	36.0	39.4 (8-0-8)
D-21	SC	38/38	11-10-60	470	Starch	33.0	29.4	31.9	44.0	40.8	42.9 (10-3-7)
D-22	SC	42/42	11-11-60	500	Starch	37.2	33.6	35.7	42.0	35.0	39.2 (10-2-8)
D-23	SC	42/42	11-11-60	470	Starch	36.0	30.0	33.8	43.6	36.8	39.0 (8-0-8)
D-24	SC	42/42	11-25-60	400	Starch	40.2	35.4	38.2	46.2	43.0	44.8 (8-0-8)
D-25	SC	38/42	11-28-60	490	Starch	38.4	33.6	35.8	45.6	35.6	39.7 (8-0-8)
D-26	SC	42/42	11-29-60	520	Starch	36.6	33.0	35.1	45.2	37.6	42.0 (8-0-8)
D-27	SC	42/42	11-30-60	400	Starch	35.4	29.4	32.2	46.8	37.8	43.0 (8-0-8)
D-28	SC	38/38	12- 8-60	490	Starch	39.6	34.2	37.1	43.0	38.8	41.2 (8-0-8)
D-29	SC	38/38	12-16-60	300	Starch	40.2	31.2	37.4	48.0	42.2	45.7 (8-0-8)
D-30	SC	42/42	12-19-60	410	Starch	41.4	33.0	35.1	43.8	36.8	39.6 (8-0-8)

TABLE A-4 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT D
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
D-31	SC	38/38	12-23-60	510	Starch	39.6	34.2	37.2	46.0	41.0	43.1	(9-2-7)
D-32	SC	42/42	12-23-60	420	Starch	35.4	28.8	32.9	47.0	41.0	43.4	(13-7-6)
D-33	SC	38/38	12-26-60	330	Starch	36.6	31.2	33.0	42.8	34.0	39.2	(8-0-8)
D-34	SC	42/42	12-27-60	450	Starch	37.8	32.4	34.8	45.0	37.6	40.5	(8-0-8)
D-35	SC	38/38	12-28-60	440	Starch	37.2	32.4	35.2	41.6	33.4	38.3	(8-0-8)
D-36	SC	38/38	12-30-60	500	Starch	36.6	31.2	33.7	43.4	34.6	39.7	(8-0-8)
D-37	SC	38/38	1- 4-61	310	Starch	35.4	30.0	32.8	43.8	38.4	41.2	(9-1-8)
D-38	SC	42/42	1- 5-61	470	Starch	31.8	29.4	30.8	44.6	35.2	40.0	(9-1-8)
D-39	SC	42/42	1- 9-61	500	Starch	37.2	27.6	32.6	42.8	38.8	40.5	(10-2-8)
D-40	SC	42/42	1-12-61	540	Starch	35.4	29.4	32.2	41.4	32.8	36.0	(8-0-8)
D-41	SC	38/38	1-13-61	450	Starch	37.2	30.6	32.8	47.4	36.0	39.8	(8-0-8)
D-42	SC	42/42	1-18-61	450	Starch	37.2	33.0	35.2	46.2	35.0	41.0	(8-0-8)
D-43	SC	38/38	1-23-61	540	Starch	39.0	34.8	37.0	43.8	39.6	42.2	(8-0-8)
D-44	SC	38/38	1-24-61	300	Starch	37.8	31.2	35.5	44.6	34.8	38.8	(8-0-8)
D-45	SC	42/42	1-27-61	515	Starch	39.0	32.4	35.3	48.4	40.2	43.2	(8-0-8)
D-46	SC	42/42	2- 1-61	400	Starch	39.6	34.8	37.6	45.4	37.6	43.0	(8-0-8)
D-47	SC	38/38	2- 8-61	550	Starch	41.4	37.2	39.7	47.4	38.8	42.6	(8-0-8)
D-48	SC	42/42	2-10-61	500	Starch	33.6	30.0	31.6	40.6	32.6	36.6	(8-0-8)
D-49	SC	42/42	2-13-61	550	Starch	36.6	32.4	35.0	39.0	34.4	37.2	(8-0-8)
D-50	SC	38/38	2-15-61	550	Starch	43.2	34.2	38.0	45.8	39.4	42.1	(8-0-8)
D-51	SC	42/38	2-16-61	550	Starch	37.2	31.8	35.0	43.8	35.2	39.2	(8-0-8)
D-52	SC	42/42	2-17-61	400	Starch	39.0	34.8	36.6	35.0	42.6	40.3	(8-0-8)
D-53	SC	42/42	2-28-61	200	Starch	34.8	31.2	33.8	43.4	39.6	41.4	(10-2-8)
D-54	SC	42/42	2-28-61	340	Starch	38.4	34.2	36.6	41.8	37.0	40.3	(8-0-8)

TABLE A-5

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT E
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Avg.	Max.	Min.	Avg.
E-1	SC	42/42	9-12-60	410	Starch	36.6	29.4	33.8	40.0	31.2	35.8 (8-0-8)
E-2	SC	42/42	9-13-60	500	Starch	34.8	31.8	33.3	39.6	33.0	36.2 (8-0-8)
E-3	SC	38/38	9-16-60	530	Starch	33.6	28.8	32.3	38.8	33.8	35.8 (8-0-8)
E-4	SC	42/38	9-21-60	350	Starch	38.4	30.6	35.3	42.4	33.2	38.6 (8-0-8)
E-5	SC	42/42	9-22-60	500	Starch	38.4	34.2	36.7	41.4	37.0	38.8 (8-0-8)
E-6	SC	42/42	9-26-60	400	Starch	36.0	24.0	31.2	39.4	33.2	36.0 (8-0-8)
E-7	SC	42/42	9-27-60	460	Starch	36.6	31.2	34.2	34.8	29.0	31.9 (8-0-8)
E-8	SC	42/42	9-29-60	510	Starch	37.8	31.8	35.8	43.4	34.6	39.2 (8-0-8)
E-9	SC	42/42	9-30-60	480	Starch	36.6	32.4	34.6	42.0	34.4	37.5 (8-0-8)
E-10	SC	42/42	10- 4-60	460	Starch	36.6	31.8	34.0	37.6	32.8	35.5 (8-0-8)
E-11	SC	42/42	10- 5-60	430	Starch	34.2	31.8	32.9	39.8	34.2	36.8 (8-0-8)
E-12	SC	42/42	10- 7-60	500	Starch	36.0	30.6	33.3	39.0	33.6	36.2 (8-0-8)
E-13	SC	38/42	10-12-60	480	Starch	37.2	31.2	34.0	38.2	32.0	35.0 (8-0-8)
E-14	SC	42/42	10-13-60	450	Starch	39.0	30.6	33.7	33.6	29.6	31.6 (8-0-8)
E-15	SC	42/42	10-17-60	470	Starch	37.2	31.2	34.1	43.2	33.6	38.6 (8-0-8)
E-16	SC	38/38	10-18-60	450	Starch	36.6	31.2	33.8	38.6	31.6	35.1 (8-0-8)
E-17	SC	38/38	10-24-60	450	Starch	39.6	32.4	36.1	41.0	35.6	38.8 (8-0-8)
E-18	SC	42/42	10-25-60	490	Starch	41.4	35.4	38.9	43.2	37.6	40.2 (8-0-8)
E-19	SC	42/42	11- 2-60	400	Starch	38.4	31.2	34.9	37.2	31.2	34.5 (8-0-8)
E-20	SC	42/42	11- 3-60	400	Starch	34.8	31.8	33.3	38.2	29.6	34.2 (8-0-8)
E-21	SC	38/38	11- 4-60	470	Starch	36.6	32.4	34.2	42.6	33.4	36.9 (8-0-8)
E-22	SC	38/38	11- 7-60	450	Starch	41.4	33.0	36.2	40.0	34.6	37.5 (8-0-8)
E-23	SC	42/42	11- 8-60	500	Starch	33.6	31.2	32.6	36.8	33.6	34.8 (8-0-8)
E-24	SC	38/38	11-16-60	510	Starch	35.4	28.2	31.2	36.0	30.2	33.6 (8-0-8)
E-25	SC	38/38	11-21-60	520	Starch	37.2	31.2	34.9	42.6	29.0	37.8 (8-0-8)
E-26	SC	42/42	11-25-60	450	Starch	40.8	25.4	38.1	42.6	34.4	39.6 (8-0-8)
E-27	SC	42/42	11-28-60	450	Starch	40.8	33.0	35.2	42.6	38.8	40.8 (8-0-8)
E-28	SC	42/42	12- 5-60	400	Starch	40.2	31.2	35.0	42.0	33.4	37.8 (8-0-8)
E-29	SC	42/42	12- 6-60	450	Starch	37.2	31.2	34.7	39.6	33.0	35.8 (8-0-8)

TABLE A-5 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT E
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
E-30	SC	42/42	12-14-60	470	Starch	37.8	31.2	34.0	37.6	29.8	33.9(8-0-8)
E-31	SC	42/42	12-15-60	400	Starch	39.0	32.4	36.4	42.4	36.8	39.6(8-0-8)
E-32	SC	38/38	12-16-60	520	Starch	34.8	29.4	33.1	44.8	40.8	42.5(8-0-8)
E-33	SC	42/42	12-19-60	520	Starch	39.0	32.4	36.5	42.6	39.2	41.0(8-0-8)
E-34	SC	42/42	12-20-60	530	Starch	40.8	33.0	37.0	42.2	36.0	39.1(8-0-8)
E-35	SC	38/38	12-27-60	500	Starch	33.6	27.6	32.1	34.8	22.0	28.8(8-0-8)
E-36	SC	38/38	12-29-60	500	Starch	34.2	29.4	32.1	38.4	33.8	35.9(8-0-8)
E-37	SC	42/42	1- 3-61	500	Starch	37.8	31.8	34.6	38.8	31.8	35.7(8-0-8)
E-38	SC	42/42	1- 4-61	390	Starch	40.8	35.4	37.6	41.2	37.0	38.8(8-0-8)
E-39	SC	42/42	1- 5-61	450	Starch	35.4	31.2	33.7	40.0	34.8	37.2(8-0-8)
E-40	SC	42/42	1-12-61	450	Starch	35.4	31.2	33.5	37.0	30.4	33.4(8-0-8)
E-41	SC	42/42	1-11-61	400	Starch	34.8	30.0	32.7	40.6	34.0	36.7(8-0-8)
E-42	SC	42/42	1-19-61	430	Starch	37.8	31.8	34.4	39.6	30.8	35.3(8-0-8)
E-43	SC	42/42	1-20-61	440	Starch	37.2	34.2	36.0	39.4	32.4	36.0(8-0-8)
E-44	SC	42/42	1-25-61	300	Starch	38.4	32.4	35.6	38.6	32.6	36.2(8-0-8)
E-45	SC	42/42	1-26-61	350	Starch	36.6	31.2	33.6	38.8	33.0	36.0(8-0-8)
E-46	SC	38/42	2- 3-61	450	Starch	36.6	31.8	34.5	39.2	34.6	36.2(8-0-8)
E-47	SC	38/42	2- 6-61	440	Starch	37.8	29.4	32.8	35.8	28.8	32.4(8-0-8)
E-48	SC	42/42	2- 8-61	350	Starch	37.2	31.8	35.5	41.0	34.6	38.4(8-0-8)
E-49	SC	42/42	2-10-61	500	Starch	37.8	32.4	35.4	37.4	32.4	34.6(8-0-8)
E-50	SC	42/42	2-13-61	550	Starch	38.4	32.4	35.6	41.0	34.6	38.1(8-0-8)
E-51	SC	38/38	2-14-61	500	Starch	40.2	34.8	37.3	43.4	36.4	39.0(8-0-8)
E-52	SC	38/42	2-21-61	510	Starch	36.6	33.0	34.9	39.6	34.6	36.8(8-0-8)
E-53	SC	38/38	2-22-61	500	Starch	39.6	36.0	37.7	41.4	32.0	39.0(8-0-8)
E-54	SC	38/38	2-24-61	520	Starch	35.4	32.4	33.8	39.0	28.0	33.4(8-0-8)

TABLE A-6

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT F
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
F-1	K	42/42	9- 7-60	320	Starch	39.6	31.8	34.8	34.2	30.4	32.1(8-0-8)
F-2	K	42/42	9- 8-60	340	Starch	37.2	31.2	34.2	31.0	24.8	27.9(8-0-8)
F-3	K	42/42	9-13-60	315	Starch	35.4	33.0	34.4	35.0	26.4	31.7(8-0-8)
F-4	SC	42/42	9-14-60	340	Starch	38.4	33.6	36.3	36.0	31.2	34.1(8-0-8)
F-5	K	42/42	9-21-60	320	Starch	40.8	36.0	38.2	35.6	29.2	31.8(8-0-8)
F-6	K	42/42	9-21-60	340	Starch	39.0	31.2	35.6	33.4	26.2	29.4(8-0-8)
F-7	K	42/42	9-22-60	320	Starch	36.6	28.8	33.4	31.4	26.4	28.2(8-0-8)
F-8	SC	42/38	9-22-60	340	Starch	39.6	34.8	37.2	34.4	31.6	33.2(8-0-8)
F-9	SC	42/42	9-29-60	320	Starch	36.0	33.0	34.8	35.6	31.2	32.7(8-0-8)
F-10	K	42/42	10- 5-60	300	Starch	38.4	33.6	36.1	33.0	28.6	30.9(8-0-8)
F-11	SC	42/42	10-11-60	320	Starch	40.8	36.6	38.3	37.0	32.8	35.3(8-0-8)
F-12	K	42/42	10-12-60	300	Starch	33.6	30.0	32.0	24.8	20.4	23.2(8-0-8)
F-13	K	42/42	10-13-60	320	Starch	42.0	34.8	38.4	34.2	28.0	31.2(8-0-8)
F-14	K	42/42	10-13-60	320	Starch	38.4	28.8	33.9	31.0	26.6	28.1(8-0-8)
F-15	K	42/42	10-14-60	320	Starch	43.2	33.6	37.9	36.8	30.2	34.0(8-0-8)
F-16	K	42/42	10-19-60	300	Starch	31.8	26.8	30.8	30.4	23.6	27.4(8-0-8)
F-17	K	42/42	10-28-60	280	Starch	39.0	27.0	34.3	23.8	20.8	22.6(8-0-8)
F-18	K	42/42	10-28-60	280	Starch	35.4	22.8	29.5	21.6	18.6	20.2(8-0-8)
F-19	K	42/42	11- 4-60	300	Starch	40.2	25.8	34.9	34.6	27.4	32.1(8-0-8)
F-20	K	42/42	11- 7-60	310	Starch	39.0	24.0	33.2	35.6	23.6	30.5(8-0-8)
F-21	K	42/42	11-10-60	310	Starch	37.2	30.0	34.0	31.8	25.6	28.2(8-0-8)
F-22	K	42/42	11-23-60	280	Starch	32.4	28.8	30.6	28.0	23.6	25.8(8-0-8)
F-23	K	42/42	11-23-60	290	Starch	31.8	26.4	29.2	28.2	23.8	25.3(8-0-8)
F-24	SC	42/42	11-28-60	310	Starch	42.0	37.2	39.7	40.2	36.0	38.0(8-0-8)
F-25	SC	42/42	11-28-60	300	Starch	42.6	35.4	38.6	39.2	35.8	37.5(8-0-8)
F-26	SC	42/42	11-30-60	280	Starch	43.2	36.6	38.7	43.0	35.2	38.2(8-0-8)
F-27	SC	42/42	11-30-60	290	Starch	37.8	34.2	36.2	38.2	31.0	34.8(8-0-8)
F-28	SC	42/42	12- 5-60	300	Starch	40.8	36.6	39.1	36.6	32.0	33.4(8-0-8)
F-29	SC	42/42	12- 6-60	320	Starch	40.2	36.0	38.6	41.8	34.4	38.6(8-0-8)
F-30	K	42/42	12- 7-60	340	Starch	36.0	26.4	32.8	29.0	25.4	27.6(8-0-8)

TABLE A-6(Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT F
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corru-gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
F-31	K	42/42	12- 7-60	360	Starch	38.4	31.2	34.9	30.4	24.8	26.9(8-0-8)
F-32	SC	42/42	12- 8-60	320	Starch	38.4	34.8	36.6	35.6	30.0	33.0(8-0-8)
F-33	SC	42/42	12- 8-60	330	Starch	39.0	31.8	34.9	35.0	30.4	32.0(8-0-8)
F-34	SC	42/42	12-12-60	320	Starch	40.2	36.6	38.0	36.4	31.0	32.9(8-0-8)
F-35	SC	42/42	12-15-60	330	Starch	35.4	31.8	34.0	38.0	32.0	34.0(8-0-8)
F-36	K	42/42	12-15-60	320	Starch	34.8	28.8	31.3	26.2	23.0	24.8(8-0-8)
F-37	K	42/42	1- 4-61	320	Starch	40.2	34.2	36.9	39.6	30.4	35.2(8-0-8)
F-38	SC	42/42	1- 5-61	320	Starch	37.8	34.2	36.3	38.0	33.8	36.3(8-0-8)
F-39	K	42/42	1-12-61	340	Starch	32.4	29.4	30.9	25.2	20.6	23.3(8-0-8)
F-40	K	42/42	1-12-61	320	Starch	31.2	25.8	28.4	21.4	17.4	19.5(8-0-8)
F-41	SC	42/42	1-13-61	320	Starch	39.0	33.0	36.2	37.4	25.8	32.8(8-0-8)
F-42	SC	42/42	1-13-61	330	Starch	40.8	34.8	37.1	36.0	32.4	33.7(8-0-8)
F-43	K	42/42	1-16-61	320	Starch	34.2	28.2	30.8	29.2	22.2	25.1(8-0-8)
F-44	K	42/42	1-16-61	330	Starch	32.4	27.0	30.2	28.6	22.6	25.2(8-0-8)
F-45	SC	42/42	1-18-61	260	Starch	42.0	35.4	37.7	36.0	33.0	34.4(8-0-8)
F-46	SC	42/42	2- 1-61	270	Starch	42.0	35.4	38.5	38.4	33.0	35.8(8-0-8)
F-47	SC	42/42	2- 2-61	300	Starch	39.0	31.8	35.7	36.4	29.6	33.8(8-0-8)
F-48	K	42/42	2- 6-61	320	Starch	46.8	36.6	41.7	38.4	29.0	32.5(8-0-8)
F-49	SC	42/42	2- 7-61	300	Starch	42.6	37.8	40.3	40.2	36.4	38.3(8-0-8)
F-50	SC	42/42	2- 9-61	300	Starch	40.2	35.4	37.3	37.0	32.2	34.0(8-0-8)
F-51	SC	42/42	2- 9-61	320	Starch	42.0	35.4	39.4	41.4	33.0	36.6(8-0-8)
F-52	SC	42/42	2-10-61	270	Starch	42.0	37.8	40.6	41.6	36.6	39.4(8-0-8)
F-53	SC	42/42	2-14-61	320	Starch	42.0	36.0	38.6	42.4	34.2	37.6(8-0-8)
F-54	SC	42/42	2-14-61	310	Starch	42.6	34.8	39.2	42.2	34.0	38.3(8-0-8)

TABLE A-7
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT G
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
G-2	K	42/42	9- 8-60	310	Silicate	34.2	28.8	32.1	33.4	30.2	31.6(8-0-8)
G-4	K	42/42	9-16-60	330	Silicate	26.4	21.6	24.2	26.6	21.6	24.3(8-0-8)
G-6	K	42/42	9-22-60	295	Silicate	37.2	28.2	34.1	37.0	29.4	32.3(8-0-8)
G-8	K	33/42	9-30-60	305	Silicate	36.6	30.0	33.1	31.8	26.4	28.9(8-0-8)
G-10	K	42/42	10-6-60	310	Silicate	36.0	30.0	33.7	32.8	26.0	29.6(8-0-8)
G-11	K	42/42	10-11-60	290	Silicate	36.6	28.2	32.4	30.0	25.8	28.4(8-0-8)
G-12	K	42/42	10-18-60	295	Silicate	38.4	29.4	32.9	34.4	27.0	30.7(8-0-8)
G-13	K	33/42	10-24-60	290	Silicate	33.0	28.2	31.4	31.0	23.6	27.8(8-0-8)
G-14	K	42/42	10-28-60	315	Silicate	28.2	23.4	24.9	24.8	20.8	22.6(8-0-8)
G-15	K	42/42	11- 1-60	295	Silicate	38.4	33.0	34.8	33.2	26.8	30.3(8-0-8)
G-16	K	42/42	11- 2-60	305	Silicate	37.8	26.4	33.4	35.0	26.4	30.2(8-0-8)
G-17	K	42/42	11- 7-60	320	Silicate	39.0	34.2	36.2	35.2	29.4	33.0(8-0-8)
G-18	K	42/42	11- 9-60	305	Silicate	34.8	25.2	30.7	32.4	24.8	28.4(8-0-8)
G-19	K	42/42	11-13-60	305	Silicate	33.6	30.6	32.5	31.0	28.4	29.3(8-0-8)
G-20	K	42/42	11-16-60	290	Silicate	37.2	33.0	35.0	33.2	21.6	28.7(8-0-8)
G-21	K	33/42	11-23-60	305	Silicate	37.8	34.8	35.8	36.4	30.8	33.1(8-0-8)
G-22	K	42/42	11-23-60	295	Silicate	32.4	26.4	28.6	29.0	27.6	28.4(8-0-8)
G-23	K	42/42	11-30-60	315	Silicate	31.2	27.6	29.7	31.6	24.4	29.0(8-0-8)
G-24	K	42/42	12- 1-60	295	Silicate	34.8	28.8	31.2	33.4	27.6	30.8(8-0-8)
G-25	K	42/42	12- 5-60	295	Silicate	31.8	25.8	29.6	32.0	23.4	28.4(8-0-8)
G-26	K	42/42	12- 6-60	290	Silicate	33.0	29.4	31.4	33.2	30.4	32.1(8-0-8)
G-27	K	42/42	12-14-60	310	Silicate	36.0	28.8	32.6	32.0	26.6	30.0(8-0-8)
G-28	K	33/42	12-15-60	290	Silicate	41.4	33.6	36.4	35.2	30.8	33.6(8-0-8)
G-29	K	42/42	12-22-60	300	Silicate	36.0	28.8	33.3	34.0	27.0	30.2(8-0-8)
G-30	K	42/42	12-22-60	305	Silicate	36.0	27.0	33.5	33.4	25.2	29.4(8-0-8)
G-31	K	42/42	12-27-60	305	Silicate	34.2	29.4	32.6	33.4	29.8	31.8(8-0-8)
G-32	K	42/42	12-28-60	300	Silicate	35.4	25.8	31.7	33.8	20.4	28.8(8-0-8)
G-33	K	42/42	1- 3-61	305	Silicate	35.4	28.2	32.2	33.6	26.4	29.9(8-0-8)
G-34	K	42/42	1- 3-61	295	Silicate	41.4	34.2	38.1	38.2	28.8	34.5(8-0-8)
G-35	K	33/42	1- 5-61	300	Silicate	33.6	28.8	31.4	32.0	27.0	29.8(8-0-8)

TABLE A-7 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT G
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
G-36	K	42/42	1- 5-61	300	Silicate	37.2	30.0	34.9	34.8	30.2	32.8(8-0-8)
G-37	K	42/42	1-10-61	305	Silicate	36.0	30.6	33.6	36.0	29.2	32.7(8-0-8)
G-38	K	42/42	1-10-61	300	Silicate	36.0	31.2	34.0	34.2	31.6	32.9(8-0-8)
G-39	K	42/42	1-11-61	305	Silicate	33.0	27.0	29.8	31.8	25.6	28.8(8-0-8)
G-40	K	42/42	1-12-61	290	Silicate	34.2	31.2	32.8	31.2	23.0	29.3(8-0-8)
G-41	K	33/42	1-16-61	300	Silicate	28.2	21.0	25.0	25.6	22.0	23.6(8-0-8)
G-42	K	42/42	1-17-61	295	Silicate	34.2	28.8	31.1	31.0	24.8	28.1(8-0-8)
G-43	K	42/42	1-17-61	300	Silicate	32.4	28.2	30.7	39.6	24.4	26.6(8-0-8)
G-44	K	42/42	1-23-61	290	Silicate	38.4	33.0	35.6	31.6	27.0	29.2(8-0-8)
G-45	K	42/42	1-24-61	295	Silicate	40.8	34.2	38.1	27.0	36.0	32.4(8-0-8)
G-46	K	-- --	1-26-61	300	Silicate	39.0	33.0	36.7	36.8	29.4	33.3(8-0-8)
G-47	K	42/42	1-30-61	295	Silicate	37.2	33.0	35.0	33.2	26.6	30.7(8-0-8)
G-48	K	42/42	1-31-61	305	Silicate	37.8	31.8	35.0	32.8	28.4	30.2(8-0-8)
G-49	K	42/42	2- 3-61	295	Silicate	37.8	32.4	35.4	36.8	27.6	32.7(8-0-8)
G-50	K	42/42	2- 7-61	300	Silicate	38.4	34.8	36.4	35.6	30.6	33.9(8-0-8)
G-51	K	33/42	2- 9-61	305	Silicate	42.0	35.4	38.0	34.4	30.0	32.6(8-0-8)
G-52	K	42/42	2-10-61	290	Silicate	42.6	30.0	37.0	33.6	27.2	31.5(8-0-8)
G-53	K	42/42	2-13-61	300	Silicate	36.0	30.6	34.0	33.2	27.0	30.7(8-0-8)
G-54	K	42/42	2-13-61	300	Silicate	34.8	28.2	30.9	31.2	23.6	28.4(8-0-8)
G-55	K	42/42	2-15-61	295	Silicate	37.2	30.0	33.6	32.2	24.6	29.5(8-0-8)
G-56	K	42/42	2-17-61	300	Silicate	38.4	27.6	33.2	33.4	24.8	30.6(8-0-8)
G-57	K	42/42	2-17-61	300	Silicate	39.6	34.2	36.2	34.6	29.4	31.8(8-0-8)
G-58	K	42/42	2-20-61	295	Silicate	37.8	31.8	34.3	34.0	28.0	30.5(8-0-8)
G-59	K	33/42	2-23-61	295	Silicate	38.4	32.4	35.1	35.0	29.6	33.1(8-0-8)

TABLE A-8

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT H
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
H-1	K	42/42	9- 8-60	400	Starch	37.2	31.8	34.0	39.6	29.2	34.0	(8-0-8)
H-2	K	42/42	9- 9-60	420	Starch	38.4	30.6	33.3	38.4	31.4	34.0	(8-0-8)
H-3	SC	38/42	9-16-60	340	Starch	37.8	34.2	36.2	48.8	41.2	43.5	(10-2-8)
H-4	SC	38/42	9-17-60	300	Starch	40.8	36.0	38.6	52.0	43.0	46.9	(11-3-8)
H-5	SC	38/42	9-17-60	300	Starch	40.8	34.8	37.3	46.6	38.4	42.7	(9-1-8)
H-6	SC	38/42	9-22-60	420	Starch	36.6	30.6	33.6	47.4	41.0	43.5	(8-0-8)
H-7	SC	38/42	9-23-60	400	Starch	39.0	34.8	36.7	47.4	42.4	45.6	(8-0-8)
H-8	K	38/42	9-23-60	400	Starch	36.0	27.6	30.6	29.6	25.6	27.5	(8-0-8)
H-9	K	42/42	9-27-60	400	Starch	33.0	24.0	30.8	37.4	30.8	33.6	(8-0-8)
H-10	K	42/42	10- 6-60	280	Starch	36.6	33.0	35.2	39.6	28.4	32.8	(8-0-8)
H-11	K	42/42	10- 7-60	360	Starch	35.4	28.2	32.6	34.8	30.0	31.4	(8-0-8)
H-12	K	42/42	10- 7-60	420	Starch	36.0	25.2	31.7	32.4	25.8	29.0	(8-0-8)
H-13	K	42/42	10-12-60	360	Starch	37.8	31.8	35.5	35.2	29.6	32.4	(8-0-8)
H-14	K	42/42	10-24-60	360	Starch	38.4	32.4	36.0	39.6	26.2	33.5	(8-0-8)
H-15	K	42/42	10-27-60	460	Starch	37.8	27.0	33.3	36.0	30.0	33.0	(8-0-8)
H-16	K	42/42	10-27-60	400	Starch	36.6	25.8	32.2	32.8	26.0	30.8	(8-0-8)
H-17	K	42/42	10-28-60	410	Starch	35.4	26.4	32.5	35.0	32.0	33.3	(8-0-8)
H-18	K	42/42	10-28-60	410	Starch	37.8	30.0	34.7	34.2	30.8	33.0	(8-0-8)
H-19	K	42/42	11- 7-60	340	Starch	40.8	27.6	37.1	35.8	27.6	32.4	(8-0-8)
H-20	K	42/42	11- 7-60	360	Starch	34.2	25.8	30.9	39.0	32.8	34.2	(8-0-8)
H-21	K	42/42	11- 8-60	350	Starch	33.6	23.4	29.6	38.8	32.0	34.5	(8-0-8)
H-22	K	42/42	11- 8-60	340	Starch	34.2	26.4	30.4	38.6	32.2	34.6	(8-0-8)
H-23	K	42/42	11-10-60	410	Starch	42.0	34.8	38.5	39.6	28.4	34.7	(8-0-8)
H-24	K	42/42	11-10-60	400	Starch	42.0	33.6	36.9	37.6	30.4	33.8	(8-0-8)
H-25	K	42/42	11-11-60	380	Starch	39.0	33.6	37.2	36.0	30.8	33.5	(8-0-8)
H-26	K	42/42	11-11-60	420	Starch	42.0	34.2	38.2	38.2	30.2	34.6	(8-0-8)
H-27	K	42/42	11-11-60	420	Starch	35.4	31.8	33.4	36.8	29.2	32.8	(8-0-8)
H-28	SC	42/42	12- 7-60	360	Starch	39.6	36.6	38.1	45.6	37.8	42.6	(8-0-8)
H-29	K	42/42	12- 7-60	360	Starch	39.6	30.0	36.7	38.8	30.6	34.4	(8-0-8)
H-30	K	42/42	12- 8-60	340	Starch	38.4	27.0	35.2	39.6	30.6	34.8	(8-0-8)

TABLE A-8 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT H
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
H-31	K	42/42	12- 9-60	360	Starch	36.6	26.4	33.2	35.2	30.4	32.6 (8-0-8)
H-32	K	42/42	12- 9-60	360	Starch	35.4	28.2	31.4	35.4	31.6	33.0 (8-0-8)
H-33	K	42/42	12-16-60	380	Starch	41.4	29.4	35.6	40.0	34.0	35.9 (8-0-8)
H-34	SC	42/42	12-19-60	460	Starch	45.0	40.8	42.9	53.0	44.2	49.1 (8-0-8)
H-35	K	42/42	12-20-60	440	Starch	30.0	25.8	27.7	32.0	27.2	30.1 (8-0-8)
H-36	K	42/42	12-20-60	440	Starch	37.8	25.2	32.8	35.6	28.8	31.7 (8-0-8)
H-37	K	42/42	1-11-61	400	Starch	39.0	34.8	36.5	43.2	33.8	36.9 (8-0-8)
H-38	K	42/42	1-17-61	360	Starch	40.8	34.2	36.3	35.4	32.4	34.0 (8-0-8)
H-39	K	42/42	1-20-61	340	Starch	35.4	27.6	32.8	30.0	23.8	29.0 (8-0-8)
H-40	SC	42/42	1-23-61	300	Starch	39.6	31.2	36.5	45.0	34.6	39.7 (8-0-8)
H-41	SC	42/42	1-24-61	320	Starch	39.0	37.2	38.2	39.6	33.4	35.2 (8-0-8)
H-42	K	42/42	1-24-61	310	Starch	41.4	36.6	39.5	35.2	29.4	32.2 (8-0-8)
H-43	K	42/42	1-25-61	320	Starch	42.6	36.0	38.1	41.2	31.6	35.7 (8-0-8)
H-44	K	42/42	1-25-61	310	Starch	42.6	34.8	38.2	40.0	34.0	37.1 (8-0-8)
H-45	SC	42/42	1-26-61	370	Starch	38.4	33.0	35.8	42.8	36.0	39.6 (8-0-8)
H-46	K	42/42	2- 1-61	360	Starch	37.2	33.6	35.2	42.4	28.4	33.8 (8-0-8)
H-47	SC	42/42	2- 3-61	380	Starch	39.6	34.8	37.4	40.8	34.8	38.7 (8-0-8)
H-48	SC	42/42	2- 3-61	420	Starch	39.6	34.2	36.5	39.0	33.0	35.6 (8-0-8)
H-49	SC	42/42	2- 7-61	400	Starch	37.2	34.2	35.5	42.8	35.2	38.2 (8-0-8)
H-50	SC	42/42	2- 7-61	380	Starch	42.6	37.8	39.7	43.6	37.2	39.9 (8-0-8)
H-51	K	42/42	3- 8-61	410	Starch	43.2	36.6	39.8	38.6	34.8	36.9 (8-0-8)
H-52	K	42/42	2- 8-61	380	Starch	40.2	34.2	37.0	40.2	31.2	35.8 (8-0-8)
H-53	SC	42/42	2-13-61	380	Starch	41.4	34.8	39.1	48.6	36.0	40.2 (8-0-8)
H-54	SC	42/42	2-17-61	400	Starch	41.4	31.8	37.8	45.8	36.0	39.7 (8-0-8)

TABLE A-9

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT I
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
I-1	K	42/42	9-7-60	355	Silicate	31.2	24.6	28.2	38.4	32.4	35.4 (8-0-8)
I-3	K	33/42	9-13-60	320	Silicate	35.4	31.2	32.9	38.4	32.0	36.4 (8-0-8)
I-5	K	33/42	9-21-60	325	Silicate	35.4	30.0	32.9	40.6	34.6	36.3 (8-0-8)
I-7	K	42/42	9-26-60	325	Silicate	36.6	28.2	32.3	35.8	30.2	33.7 (8-0-8)
I-9	K	42/42	10- 4-60	315	Silicate	35.4	25.2	31.1	41.8	33.6	36.4 (8-0-8)
I-11	K	33/42	10-13-60	320	Silicate	36.6	31.8	33.5	42.4	33.0	37.0 (8-0-8)
I-12	K	42/42	10-20-60	295	Silicate	33.6	25.8	30.2	35.0	25.0	31.8 (8-0-8)
I-13	K	42/42	10-25-60	305	Silicate	34.8	31.8	33.5	42.6	36.2	39.7 (8-0-8)
I-14	K	42/42	10-26-60	315	Silicate	32.4	27.6	30.5	38.0	34.2	36.1 (8-0-8)
I-15	K	42/42	11- 2-60	320	Silicate	33.6	26.4	29.8	43.0	26.6	36.0 (8-0-8)
I-16	K	42/42	11- 3-60	345	Silicate	35.4	28.8	32.2	36.2	30.0	33.2 (8-0-8)
I-17	K	42/42	11- 7-60	315	Silicate	39.0	28.8	33.8	43.0	30.0	38.7 (8-0-8)
I-18	K	33/42	11-10-60	330	Silicate	29.4	21.0	26.6	38.2	28.6	33.7 (8-0-8)
I-19	K	33/42	11-15-60	330	Silicate	40.2	35.4	37.9	48.0	38.4	43.7 (8-0-8)
I-20	K	42/42	11-17-60	325	Silicate	42.0	34.8	37.6	45.0	28.0	37.3 (8-0-8)
I-21	K	42/42	11-21-60	325	Silicate	34.8	25.8	30.2	39.4	31.4	34.7 (8-0-8)
I-22	K	42/42	11-22-60	315	Silicate	38.4	28.2	32.9	46.0	31.2	38.4 (8-0-8)
I-23	K	42/42	11-28-60	315	Silicate	35.4	28.2	32.2	44.8	36.0	39.7 (8-0-8)
I-24	K	33/42	12- 1-60	305	Silicate	34.2	25.2	30.2	40.0	33.6	32.1 (8-0-8)
I-25	K	33/42	12- 6-60	325	Silicate	33.0	28.8	31.3	40.8	31.4	35.4 (8-0-8)
I-26	K	33/42	12- 7-60	325	Silicate	36.0	28.2	32.5	39.4	30.0	35.4 (8-0-8)
I-27	K	42/42	12-15-60	300	Silicate	36.0	28.8	32.8	40.6	30.0	35.8 (8-0-8)
I-28	K	42/42	12-16-60	310	Silicate	36.0	30.0	33.9	40.0	33.6	36.0 (10-2-8)
I-29	K	42/42	12-19-60	310	Silicate	34.8	30.6	32.4	43.8	33.0	37.8 (8-0-8)
I-30	K	33/42	12-22-60	315	Silicate	39.6	32.4	35.8	41.6	30.0	36.8 (8-0-8)
I-31	K	42/42	12-29-60	315	Silicate	38.4	30.0	34.1	38.0	33.0	35.7 (8-0-8)
I-32	K	33/42	12-29-60	310	Silicate	34.2	26.4	31.6	39.4	29.8	36.2 (8-0-8)
I-33	K	33/42	1- 3-61	320	Silicate	39.0	29.4	33.4	46.0	35.4	40.3 (8-0-8)
I-34	K	42/42	1- 4-61	375	Silicate	35.4	31.8	33.2	56.6	33.4	37.1 (8-0-8)

TABLE A-9 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT I
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
I-35	K	33/42	1- 6-61	320	Silicate	34.8	31.2	32.6	38.8	32.4	36.4 (8-0-8)
I-36	K	33/42	1- 6-61	315	Silicate	36.6	28.8	32.7	41.4	33.2	37.9 (8-0-8)
I-37	K	42/42	1- 9-61	310	Silicate	36.6	30.6	34.1	38.2	34.6	36.3 (8-0-8)
I-38	K	42/42	1-10-61	315	Silicate	32.4	28.2	30.9	39.8	31.6	35.3 (8-0-8)
I-39	K	33/42	1-10-61	320	Silicate	34.8	29.4	31.6	42.0	30.0	36.8 (8-0-8)
I-40	K	33/42	1-11-61	320	Silicate	35.4	31.8	33.8	41.0	33.4	37.2 (8-0-8)
I-41	K	33/42	1-17-61	315	Silicate	42.0	35.4	38.3	46.0	33.0	40.0 (8-0-8)
I-42	K	42/42	1-18-61	320	Silicate	31.8	26.4	29.4	35.6	28.8	31.7 (8-0-8)
I-43	K	33/42	1-19-61	320	Silicate	32.4	25.2	28.3	39.4	30.0	33.6 (8-0-8)
I-44	K	42/42	1-23-61	320	Silicate	33.6	27.0	30.9	42.2	36.0	38.2 (8-0-8)
I-45	K	33/42	1-24-61	315	Silicate	36.0	24.6	31.1	38.0	34.0	36.2 (8-0-8)
I-46	K	33/42	1-26-61	320	Silicate	39.0	31.2	33.9	45.0	38.0	39.7 (8-0-8)
I-47	K	33/42	2- 2-61	325	Silicate	34.2	30.0	31.7	39.2	33.4	36.2 (8-0-8)
I-48	K	33/42	2- 2-61	320	Silicate	33.6	28.8	31.1	38.8	34.2	35.8 (8-0-8)
I-49	K	42/42	2- 8-61	315	Silicate	36.0	28.2	33.5	40.4	30.2	35.0 (8-0-8)
I-50	K	42/42	2- 8-61	320	Silicate	34.8	30.0	33.1	40.0	31.8	35.2 (8-0-8)
I-51	K	33/42	2- 9-61	315	Silicate	42.0	30.0	37.6	44.2	39.2	42.5 (8-0-8)
I-52	K	42/42	2- 9-61	315	Silicate	40.2	31.2	35.2	42.6	30.6	37.8 (8-0-8)
I-53	K	33/42	2-15-61	325	Silicate	35.4	30.6	33.2	44.2	34.0	39.3 (8-0-8)
I-54	K	42/42	2-16-61	320	Silicate	37.8	32.4	35.1	45.0	38.8	41.0 (8-0-8)
I-55	K	42/42	2-17-61	325	Silicate	40.2	33.6	37.7	43.6	36.8	39.0 (8-0-8)
I-56	K	42/42	2-18-61	330	Silicate	39.6	33.6	37.4	44.8	31.0	40.0 (8-0-8)
I-57	K	42/42	2-18-61	325	Silicate	39.6	33.6	36.9	45.0	41.6	42.9 (9-1-8)
I-58	K	42/42	2-23-61	315	Silicate	32.4	26.4	29.6	40.6	31.8	36.2 (9-1-8)
I-59	K	42/42	2-23-61	320	Silicate	34.2	28.2	31.5	38.0	30.0	33.7 (9-1-8)

TABLE A-10

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT J
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
J-2	SC	42/42	10-12-60	250	Starch	31.2	28.8	30.3	31.4	28.0	29.0(8-0-8)
J-3	SC	42/42	11- 1-60	250	Starch	31.8	28.8	30.2	30.6	27.4	29.1(8-0-8)
J-4	SC	42/42	11- 2-60	250	Starch ^a	51.6	45.0	47.2	47.6	42.6	45.3(8-0-8)
J-5	SC	42/42	11-18-60	250	Starch	23.0	30.6	31.8	34.0	29.4	31.2(8-0-8)
J-7	SC	42/42	11-26-60	300	Starch	36.0	31.8	33.8	31.8	29.2	30.5(8-0-8)
J-8	SC	42/42	11-25-60	200	Starch ^a	34.8	31.2	32.9	35.0	28.8	31.9(8-0-8)
J-9	SC	42/42	12-19-60	250	Starch ^a	53.4	48.0	51.0	47.2	40.6	42.8(8-0-8)
J-10	SC	42/42	12-22-60	200	Starch	38.4	34.2	36.2	35.6	30.6	32.8(8-0-8)
J-11	SC	42/42	1- 4-61	175	Starch	35.4	28.8	32.1	31.6	27.6	30.3(8-0-8)
J-12	SC	42/42	1- 6-61	175	Starch	34.2	29.4	32.4	39.6	31.0	34.7(8-0-8)
J-13	SC	42/42	1- 6-61	200	Starch	37.8	34.2	35.9	34.0	29.4	31.9(8-0-8)
J-14	SC	42/42	1- 6-61	200	Starch	34.8	31.8	32.8	32.8	30.8	31.8(8-0-8)
J-15	SC	42/42	1- 6-61	200	Starch	37.8	31.8	33.9	38.2	29.8	32.8(8-0-8)
J-17	SC	42/42	1-13-61	250	Starch	37.8	36.0	36.9	35.6	32.6	33.9(8-0-8)
J-18	SC	42/42	1-14-61	250	Starch	38.4	33.6	35.8	36.0	30.2	33.2(8-0-8)
J-19	SC	42/42	1-14-61	250	Starch	38.4	31.8	36.0	36.0	30.6	33.4(8-0-8)
J-20	SC	42/42	1-15-61	275	Starch	38.4	33.6	35.6	36.0	30.6	33.7(8-0-8)
J-21	SC	42/42	1-15-61	275	Starch	38.4	32.4	35.6	35.8	31.8	33.7(8-0-8)
J-22	SC	42/42	1-19-61	250	Starch	37.8	32.4	35.6	35.8	31.6	33.5(8-0-8)
J-23	SC	42/42	1-19-61	275	Starch	37.8	32.4	35.4	35.2	32.2	33.6(8-0-8)
J-24	SC	42/42	2- 1-61	200	Starch ^a	56.4	49.2	52.4	42.2	35.0	39.9(8-0-8)
J-25	SC	42/42	2- 6-61	300	Starch	37.2	31.8	35.5	36.8	30.0	34.3(8-0-8)
J-26	SC	42/42	2- 9-61	200	Starch ^a	52.8	43.8	47.3	44.4	40.0	41.8(8-0-8)
J-27	SC	42/42	2-27-61	225	Starch	39.0	36.0	37.3	34.4	30.2	32.5(8-0-8)
J-28	SC	42/42	2-27-61	275	Starch	36.0	31.2	34.3	33.4	26.2	29.9(8-0-8)
J-29	SC	42/42	2-28-61	250	Starch	37.2	34.8	36.2	36.6	32.2	33.8(8-0-8)
J-30	SC	42/42	2-28-61	200	Starch	37.8	31.2	34.0	36.6	27.8	32.8(8-0-8)
J-31	SC	42/42	3-14-61	250	Starch ^a	54.0	46.2	49.8	42.6	35.2	40.0(8-0-8)
J-32	SC	42/42	3-15-61	250	Starch ^a	53.4	42.0	47.8	46.0	43.2	44.4(8-0-8)
J-33	SC	42/42	3-23-61	300	Starch	37.2	33.6	35.9	36.6	31.0	34.0(8-0-8)

^a Water-resistant starch.

TABLE A-10 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT J
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
J-34	SC	42/42	3-23-61	300	Starch	38.4	34.2	36.1	38.8	33.4	35.7(8-0-8)
J-35	SC	42/42	3-29-61	300	Starch	34.8	30.0	33.7	32.0	29.0	30.7(8-0-8)
J-36	SC	42/42	3-29-61	300	Starch	36.6	30.0	34.0	32.4	28.0	30.1(8-0-8)
J-37	SC	42/42	4- 3-61	250	Starch	38.4	33.0	35.0	36.6	30.6	33.5(8-0-8)
J-38	SC	42/42	4- 3-61	250	Starch	37.8	33.6	36.0	40.0	33.2	35.3(8-0-8)
J-39	SC	42/42	4- 4-61	200	Starch	35.4	33.0	34.4	35.4	28.4	31.0(8-0-8)

TABLE A-11

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT K
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
K-2	SC	42/42	9-8-60	400	Starch	37.2	31.2	34.4	57.8	37.8	48.2(8-0-8)
K-3	SC	42/42	10-10-60	400	Starch	40.2	34.2	36.3	59.4	38.4	48.8(8-0-8)
K-4	SC	42/42	10-25-60	320	Starch	38.4	32.6	35.2	53.2	34.0	43.2(8-0-8)
K-5	SC	42/42	11- 2-60	300	Starch ^a	36.0	30.6	34.4	57.0	41.4	50.1(8-0-8)
K-6	SC	42/42	11- 3-60	350	Starch ^a	33.6	26.4	30.1	49.0	31.6	41.4(8-0-8)
K-7	SC	42/42	11- 8-60	325	Starch	35.4	31.2	33.2	54.0	40.8	47.9(8-0-8)
K-8	SC	42/42	11- 9-60	300	Starch	37.8	33.6	35.7	51.0	46.2	49.6(8-0-8)
K-9	SC	33/42	11-16-60	300	Starch ^a	34.8	30.6	33.6	56.6	47.0	52.2(8-0-8)
K-10	SC	42/42	11-21-60	300	Starch	39.6	32.4	35.6	53.6	45.8	49.7(8-0-8)
K-11	SC	42/42	11-30-60	300	Starch	33.6	29.4	32.0	44.8	38.8	41.8(8-0-8)
K-12	SC	42/42	12- 2-60	325	Starch ^a	36.6	33.6	35.0	55.6	44.2	51.1(8-0-8)
K-13	SC	42/42	12-13-60	350	Starch ^a	36.6	31.2	33.8	55.4	40.6	46.8(8-0-8)
K-14	SC	42/42	12-15-60	350	Starch	33.6	29.4	31.6	48.0	38.0	43.8(8-0-8)
K-15	SC	42/42	12-19-60	250	Starch ^a	36.6	31.2	33.2	52.6	39.0	45.4(8-0-8)
K-16	SC	33/42	12-21-60	300	Starch ^a	37.8	31.8	35.0	54.6	45.0	50.8(8-0-8)
K-17	SC	42/42	12-22-60	350	Starch	37.2	32.4	35.0	57.8	46.0	51.2(8-0-8)
K-18	SC	42/42	12-22-60	350	Starch	37.8	32.4	34.4	60.2	49.8	54.9(9-1-8)
K-19	SC	42/42	12-23-60	300	Starch	39.0	37.2	38.1	57.8	43.8	48.8(8-0-8)
K-20	SC	42/42	12-27-60	250	Starch	38.4	33.6	35.6	56.8	40.0	47.3(8-0-8)
K-21	SC	42/42	12-28-60	250	Starch	37.2	31.8	34.8	54.6	44.0	50.2(8-0-8)
K-22	SC	42/42	12-28-60	250	Starch	32.4	29.4	30.7	48.0	33.4	44.4(8-0-8)
K-23	SC	42/42	12-28-60	300	Starch	40.8	32.4	36.3	50.6	43.2	46.4(8-0-8)
K-24	SC	42/42	12-29-60	300	Starch	36.6	31.2	34.4	60.4	48.4	53.5(8-0-8)
K-25	SC	42/42	12-30-60	350	Starch	33.0	28.8	31.6	49.6	40.8	47.5(9-2-7)
K-26	SC	42/42	12-30-60	350	Starch	33.6	28.8	32.1	55.0	44.0	50.8(12-5-7)
K-27	SC	42/42	1- 5-61	350	Starch	37.2	30.6	33.9	52.6	41.8	46.8(10-2-8)
K-28	SC	42/42	1- 5-61	350	Starch	38.4	34.2	36.7	43.2	35.0	39.6(10-2-8)
K-29	SC	42/42	1- 9-61	300	Starch	37.8	34.2	36.0	63.8	48.6	56.2(8-0-8)
K-30	SC	42/42	1-18-61	300	Starch ^a	36.0	31.2	34.4	57.4	41.6	49.5(8-0-8)
K-31	SC	33/38	1-20-61	300	Starch ^a	35.4	33.6	34.8	58.6	45.6	51.4(8-0-8)

^a Water-resistant starch.

TABLE A-11 (Continued)
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT K
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
K-32	SC	33/38	1-21-61	300	Starch	39.6	29.4	34.3	58.0	47.8	52.7(8-0-8)
K-33	SC	42/42	1-26-61	200	Starch	36.0	30.6	34.8	55.6	41.6	49.1(8-0-8)
K-34	SC	42/42	1-28-61	300	Starch	37.8	34.2	36.0	57.2	38.2	48.2(9-1-8)
K-35	SC	42/42	1-28-61	250	Starch	40.8	35.4	38.2	60.2	36.6	54.8(8-0-8)
K-36	SC	42/42	1-30-61	325	Starch	39.6	32.4	36.0	56.2	39.0	48.6(8-0-8)
K-37	SC	38/42	2- 2-61	275	Starch	38.4	32.4	34.6	57.6	48.4	51.3(8-0-8)
K-38	SC	38/38	2- 2-61	300	Starch	40.8	32.4	36.1	62.6	44.2	55.1(8-0-8)
K-39	SC	42/42	2- 7-61	300	Starch	39.6	32.4	35.3	57.8	50.4	53.4(8-0-8)
K-40	SC	42/42	2- 8-61	300	Starch	38.4	34.2	36.2	50.2	37.8	43.6(8-0-8)
K-41	SC	42/42	2- 9-61	300	Starch	38.4	32.4	35.1	51.8	45.0	47.8(8-0-8)
K-42	SC	42/42	2-10-61	400	Starch	33.6	28.8	31.7	45.2	40.0	41.6(8-0-8)
K-43	SC	42/42	2-15-61	375	Starch	35.4	30.0	32.4	44.6	34.0	39.2(8-0-8)
K-44	SC	42/42	2-16-61	325	Starch	36.6	29.4	34.0	57.2	41.4	48.4(8-0-8)
K-45	SC	42/42	2-16-61	350	Starch	40.2	33.6	37.0	57.2	47.6	53.8(9-1-8)
K-45A	SC	42/42	2-23-61	250	Starch	38.4	33.0	36.4	57.4	45.4	52.2(8-0-8)
K-46	SC	38/38	2-24-61	325	Starch	40.8	34.2	38.3	56.0	45.2	52.6(8-0-8)
K-47	SC	42/42	2-27-61	250	Starch ^a	39.0	30.6	34.4	55.0	47.6	51.2(9-1-8)
K-48	SC	42/42	2-27-61	300	Starch	38.4	31.2	34.8	59.4	47.6	53.6(9-1-8)
K-49	SC	42/33	2-27-61	300	Starch	41.4	32.4	35.3	63.2	53.6	59.6(10-2-8)
K-50	SC	42/38	2-28-61	300	Starch	41.4	31.8	36.8	61.4	44.8	55.2(8-0-8)
K-51	SC	42/33	2-28-61	250	Starch	39.0	34.2	37.7	56.4	50.6	54.1(9-1-8)
K-52	SC	42/42	3- 1-61	250	Starch	39.6	33.6	37.4	61.0	53.0	58.1(10-2-8)
K-53	SC	38/38	3- 6-61	350	Starch	36.0	31.8	34.2	58.8	52.4	55.5(12-5-7)
K-54	SC	42/42	3- 6-61	250	Starch	36.6	30.0	34.5	56.4	47.4	52.7(15-12-3)

^a Water-resistant starch.

TABLE A-12

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT L
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru-gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
L-1	SC	42/42	10-25-60	425	Starch	36.0	33.0	34.0	57.0	51.2	54.2(8-0-8)
L-2	SC	42/42	10-31-60	250	Starch	37.2	32.4	34.6	54.8	46.4	50.3(8-0-8)
L-3	SC	42/42	11-10-60	350	Starch	41.4	31.8	38.0	52.8	46.8	48.6(8-0-8)
L-4	S	42/42	11-15-60	320	Starch	30.6	27.6	29.4	44.0	36.8	40.7(8-0-8)
L-5	S	42/42	11-29-60	420	Starch	33.6	27.0	30.0	42.8	36.8	39.4(8-0-8)
L-6	SC	42/42	12-14-60	325	Starch	38.4	35.4	37.2	50.4	45.4	47.9(8-0-8)

TABLE A-13

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT M
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lt./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
M-1	SC	42/42	11-21-60	300	Starch	28.4	31.2	34.1	66.0	42.6	56.0(8-0-8)
M-2	B	33/42	12- 1-60	315	Starch	34.8	31.8	33.1	60.8	49.6	55.1(8-0-8)

TABLE A-14

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT N
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
N-1	SC	42/42	9-6-60	300	Starch	31.8	28.2	30.2	40.0	28.2	33.2(8-0-8)
N-3	SC	42/42	9-14-60	320	Starch	35.4	28.2	31.6	44.2	36.8	41.1(8-0-8)
N-4	SC	42/42	9-15-60	400	Starch	39.0	28.8	32.5	32.2	25.8	29.0(8-0-8)
N-5	SC	42/42	9-19-60	350	Starch	34.2	28.8	32.3	46.2	38.2	43.0(8-0-8)
N-6	SC	42/42	9-23-60	340	Starch	34.2	28.8	30.8	45.6	34.0	39.3(8-0-8)
N-7	SC	42/42	10-4-60	300	Starch	34.8	30.0	32.2	40.4	32.4	35.6(8-0-8)
N-8	SC	42/42	9-28-60	300	Starch	34.8	28.8	32.2	44.6	37.6	41.1(8-0-8)
N-9	SC	42/42	10-6-60	300	Starch	40.2	34.8	37.0	49.2	33.8	40.8(8-0-8)
N-10	SC	42/42	10-20-60	325	Starch	35.4	32.4	33.8	44.0	35.6	40.6(8-0-8)
N-11	SC	42/42	10-19-60	300	Starch	37.2	33.0	35.1	55.0	46.2	50.5(8-0-8)
N-12	SC	42/42	10-24-60	300	Starch	37.2	30.6	34.6	47.6	36.0	40.9(8-0-8)
N-13	SC	42/42	11- 2-60	300	Starch	35.4	32.4	34.0	53.4	44.0	48.7(8-0-8)
N-14	SC	42/42	11-4-60	250	Starch	30.6	25.8	28.3	32.6	28.2	30.4(8-0-8)
N-15	SC	42/42	11-9-60	250	Starch	34.8	31.8	33.5	53.6	40.4	47.7(8-0-8)
N-16	SC	42/42	11-14-60	300	Starch	35.4	31.8	33.2	47.6	31.6	41.5(8-0-8)
N-17	SC	42/42	11-15-60	300	Starch	37.8	32.4	35.4	49.4	29.6	43.9(8-0-8)
N-18	SC	42/42	11-16-60	250	Starch	34.2	30.6	32.6	43.0	23.6	31.8(8-0-8)
N-19	SC	42/42	11-23-60	300	Starch	39.6	34.8	37.5	54.4	42.0	47.8(8-0-8)
N-20	SC	42/42	12- 1-60	250	Starch	35.4	31.8	33.5	49.2	36.2	42.6(8-0-8)
N-21	SC	38/38	12-13-60	200	Starch	36.0	32.4	34.6	44.4	32.2	39.6(8-0-8)
N-22	SC	42/42	12-14-60	250	Starch	37.8	33.0	36.4	41.8	34.8	38.7(8-0-8)
N-23	SC	42/42	12-19-60	300	Starch ^a	36.6	34.2	35.0	42.4	33.0	38.8(8-0-8)
N-24	SC	42/42	12-19-60	250	Starch ^a	37.2	32.4	34.2	44.0	38.8	40.8(8-0-8)
N-25	SC	42/42	12-19-60	250	Starch ^a	37.8	31.2	35.2	45.4	28.4	36.2(8-0-8)
N-26	SC	42/42	12-20-60	200	Starch	34.8	31.2	32.8	43.0	31.8	36.7(8-0-8)
N-27	SC	42/42	12-20-60	250	Starch	37.8	31.8	34.4	41.8	35.0	37.7(8-0-8)
N-28	SC	42/42	12-21-60	300	Starch	36.0	31.8	33.9	43.2	36.2	40.6(8-0-8)
N-29	SC	42/42	12-21-60	300	Starch	37.8	32.4	35.6	42.2	33.8	36.0(8-0-8)
N-30	SC	42/42	12-23-60	200	Starch	37.2	31.2	34.3	52.0	37.6	46.3(8-0-8)
N-31	SC	42/42	12-28-60	250	Starch	36.6	34.2	35.3	47.6	41.0	44.6(8-0-8)

^a

Water-resistant starch.

TABLE A-14 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT N
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
N-32	SC	42/42	12-29-60	250	Starch	37.8	36.0	37.1	54.2	27.4	41.6(8-0-8)
N-33	SC	38/38	12-31-60	250	Starch	37.2	34.3	35.7	46.6	37.6	42.0(8-0-8)
N-34	SC	42/42	1- 3-61	300	Starch	37.8	33.6	35.1	36.8	31.4	34.1(8-0-8)
N-35	SC	42/42	1- 4-61	250	Starch ^a	50.4	39.6	44.5	67.8	57.4	62.6(8-0-8)
N-36	SC	42/42	1- 4-61	250	Starch ^a	35.4	28.8	33.1	50.2	41.8	45.6(8-0-8)
N-37	SC	33/38	1- 9-61	200	Starch	37.2	33.6	35.2	48.4	42.8	46.2(8-0-8)
N-38	SC	42/42	1-10-61	250	Starch	39.0	34.8	37.3	50.0	38.0	43.3(8-0-8)
N-39	SC	42/42	1-10-61	250	Starch	39.0	26.4	34.6	49.8	32.0	43.7(8-0-8)
N-40	SC	42/42	1-12-61	250	Starch	38.4	34.2	35.7	49.0	42.6	45.4(8-0-8)
N-41	SC	42/42	1-13-61	250	Starch	37.2	31.8	35.1	45.0	32.0	38.6(8-0-8)
N-42	SC	42/42	1-17-61	250	Starch	40.2	33.6	37.3	58.8	32.8	38.6(8-0-8)
N-43	SC	42/42	1-18-61	250	Starch ^a	40.8	37.8	38.8	36.6	32.4	34.4(8-0-8)
N-44	SC	42/42	1-24-61	300	Starch ^a	37.2	29.4	33.7	47.4	38.0	41.7(8-0-8)
N-45	SC	38/38	1-26-61	200	Starch ^a	38.4	31.8	35.2	45.6	32.6	41.0(8-0-8)
N-46	SC	33/42	2- 6-61	275	Starch	33.0	30.6	32.1	46.0	35.8	42.0(8-0-8)
N-47	SC	38/38	2-13-61	300	Starch	40.8	33.0	36.2	50.8	36.0	42.8(8-0-8)
N-48	SC	42/42	2-14-61	250	Starch	36.6	31.2	33.2	37.0	30.0	33.3(8-0-8)
N-49	SC	42/42	2-20-61	275	Starch	38.4	34.8	36.6	46.6	36.4	42.2(8-0-8)
N-50	SC	38/38	2-21-61	300	Starch	35.4	31.2	33.5	48.6	31.8	42.5(8-0-8)
N-51	SC	42/42	2-21-61	300	Starch	41.4	36.0	37.4	49.8	35.0	42.8(8-0-8)
N-52	SC	42/42	2- 21-61	275	Starch	37.2	33.0	35.1	39.8	31.8	35.4(8-0-8)
N-53	SC	42/42	2-22-61	300	Starch	37.2	32.4	35.8	40.2	31.0	36.6(8-0-8)
N-54	SC	42/42	2-23-61	300	Starch	39.0	30.6	34.8	46.8	35.6	42.2(8-0-8)
N-55	SC	42/42	2-28-61	275	Starch	53.4	41.4	45.4	61.8	54.4	57.0(8-0-8)

^a Water-resistant starch.

TABLE A-15

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT 0
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
0-1	SC	42/42	11-17-60	325	Starch	38.4	32.4	34.2	50.0	43.0	45.7(8-0-8)
0-2	SC	42/42	11-22-60	350	Starch	34.8	31.2	33.2	43.0	34.8	39.1(8-0-8)
0-3	SC	42/42	11-28-60	300	Starch	37.2	31.2	34.0	49.2	42.6	45.6(8-0-8)
0-4	SC	42/42	12-21-60	320	Starch	36.0	31.2	33.7	46.6	38.4	43.6(8-0-8)
0-5	SC	42/42	12-29-60	350	Starch	36.0	31.8	33.2	48.2	30.0	40.2(8-0-8)
0-6	SC	42/42	1- 4-61	340	Starch	37.8	34.2	35.6	48.6	40.4	45.2(8-0-8)
0-7	SC	42/42	1-13-61	315	Starch	36.0	30.0	33.8	44.2	41.6	43.0(8-0-8)
0-8	SC	33/42	1-16-61	375	Starch	37.8	32.4	36.4	44.8	41.6	43.1(8-0-8)
0-9	SC	42/42	1-25-61	350	Starch	36.6	34.2	35.2	44.8	40.0	42.6(8-0-8)
0-10	SC	42/42	2- 6-61	310	Starch	35.4	31.8	33.3	43.4	40.0	41.8(8-0-8)
0-11	SC	42/42	2-27-61	360	Starch	39.0	31.8	35.8	45.6	38.6	42.5(8-0-8)

TABLE A-16

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT P
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
P-1	SC	42/42	9- 6-60	400	Starch	35.4	31.8	33.8	34.4	31.2	33.0(8-0-8)
P-2	SC	42/42	9- 7-60	400	Starch	42.0	33.6	37.4	34.9	29.0	32.1(8-0-8)
P-3	B	42/42	9- 8-60	400	Starch	33.0	30.0	31.8	36.8	27.8	31.6(8-0-8)
P-4	B	42/42	9-14-60	325	Starch	39.0	25.8	31.6	36.0	28.4	32.4(8-0-8)
P-5	SC	38/38	9-14-60	350	Starch	36.0	31.2	33.9	38.6	32.4	34.4(8-0-8)
P-6	B	38/38	9-19-60	350	Starch	37.8	27.0	33.8	40.4	34.0	36.8(8-0-8)
P-7	SC	42/42	9-20-60	425	Starch	33.0	27.0	30.2	29.6	26.4	28.0(8-0-8)
P-8	B	42/42	9-21-60	400	Starch	39.0	30.6	34.9	38.4	33.0	35.3(8-0-8)
P-9	B	42/42	9-21-60	450	Starch	33.0	27.0	29.2	30.6	24.8	27.9(8-0-8)
P-10	SC	42/42	10- 3-60	300	Starch	37.2	31.8	33.6	33.2	27.2	29.9(8-0-8)
P-11	B	42/42	10- 4-60	400	Starch	35.4	30.0	32.7	32.6	27.6	30.0(8-0-8)
P-12	B	38/38	10- 5-60	350	Starch	28.2	24.0	26.1	29.8	25.4	27.5(8-0-8)
P-13	B	38/38	10- 6-60	375	Starch	33.0	27.0	30.2	32.2	22.6	28.2(8-0-8)
P-14	B	42/42	10-10-60	375	Starch	43.8	25.8	37.0	36.0	32.0	33.8(8-0-8)
P-15	B	42/42	10-12-60	350	Starch	36.6	25.2	31.2	38.2	31.6	33.8(8-0-8)
P-16	B	42/42	10-20-60	375	Starch	34.2	27.6	31.6	37.2	30.8	34.4(8-0-8)
P-17	B	38/38	10-20-60	375	Starch	43.8	31.2	35.2	37.8	30.8	34.5(8-0-8)
P-18	B	38/38	10-28-60	400	Starch	29.4	24.0	27.0	26.4	20.8	24.5(8-0-8)
P-19	SC	42/42	10-31-60	375	Starch	34.2	30.0	32.6	34.6	32.0	32.9(8-0-8)
P-20	SC	42/42	11- 2-60	375	Starch	37.2	30.6	33.8	36.8	27.6	32.3(8-0-8)
P-21	B	42/42	11- 3-60	350	Starch	36.6	30.0	33.8	38.0	33.2	35.3(8-0-8)
P-22	B	42/42	11-10-60	350	Starch	34.2	25.8	30.5	35.6	27.0	31.2(8-0-8)
P-23	B	42/42	11-11-60	325	Starch	38.4	32.4	36.0	41.8	30.0	36.1(8-0-8)
P-24	B	42/42	11-17-60	375	Starch	32.4	27.6	29.9	31.0	26.4	29.0(8-0-8)
P-25	B	42/42	11-18-60	400	Starch	36.0	26.4	31.4	32.6	29.4	31.0(8-0-8)
P-26	SC	42/42	11-22-60	350	Starch	33.6	27.6	30.9	34.6	25.4	31.3(8-0-8)
P-27	B	42/42	11-23-60	350	Starch	38.4	28.2	31.3	37.2	26.8	33.0(8-0-8)
P-28	SC	42.42	11-23-60	350	Starch	34.8	30.6	33.4	34.2	28.0	30.6(8-0-8)
P-29	SC	38/38	11-28-60	350	Starch	34.2	30.0	32.6	32.8	28.6	30.4(8-0-8)
P-30	B	42/42	11-30-60	350	Starch	34.8	29.4	32.0	38.2	31.4	34.0(8-0-8)

TABLE A-16 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT P
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
P-31	B	42/42	12- 2-60	375	Starch	34.8	30.6	32.7	31.8	24.0	27.9(8-0-8)
P-32	SC	38/38	12- 6-60	375	Starch	37.2	31.8	35.1	33.0	28.6	30.6(8-0-8)
P-33	SC	42/42	12-14-60	375	Starch	39.0	31.8	34.6	39.6	31.4	35.0(8-0-8)
P-34	B	42/42	12-15-60	375	Starch	34.2	25.8	30.5	34.6	26.2	30.6(8-0-8)
P-35	B	42/42	12-20-60	350	Starch	40.8	29.4	34.7	36.8	31.6	33.4(8-0-8)
P-36	SC	38/38	12-20-60	375	Starch	42.6	32.4	37.4	36.8	30.2	33.3(8-0-8)
P-37	SC	42/42	12-27-60	--	Starch	37.8	33.6	35.2	38.2	29.4	33.4(8-0-8)
P-38	B	38/38	12-28-60	350	Starch	33.0	27.0	29.7	28.6	24.0	26.6(8-0-8)
P-39	SC	42/42	12-30-60	--	Starch	45.0	36.6	39.2	38.0	28.8	34.5(8-0-8)
P-40	SC	38/38	1- 3-61	350	Starch	44.4	36.0	40.4	34.8	30.8	33.0(8-0-8)
P-41	B	42/42	1- 4-61	350	Starch	33.6	30.0	31.8	33.6	27.2	30.2(8-0-8)
P-42	SC	42/42	1- 4-61	350	Starch	40.8	32.4	35.2	36.4	29.2	33.3(8-0-8)
P-43	SC	42/42	1- 9-61	375	Starch	42.0	33.6	38.0	34.2	30.2	32.7(8-0-8)
P-44	SC	42/42	1-12-61	--	Starch	39.0	33.0	37.2	34.2	27.6	31.6(8-0-8)
P-45	B	42/42	1-13-61	--	Starch	37.8	31.8	33.8	33.8	29.4	31.9(8-0-8)
P-46	B	42/42	1-16-61	400	Starch	31.8	24.0	27.8	34.6	27.0	30.9(8-0-8)
P-47	B	42/42	1-19-61	375	Starch	31.2	25.8	29.7	32.2	29.0	30.6(8-0-8)
P-48	B	42/42	1-20-61	375	Starch	38.4	31.2	35.7	44.0	35.0	39.2(8-0-8)
P-49	B	42/42	1-26-61	375	Starch	35.4	30.6	33.0	34.6	25.8	31.2(8-0-8)
P-50	SC	42/42	1-30-61	375	Starch	38.4	34.2	36.2	38.2	25.8	33.2(8-0-8)
P-51	B	42/42	2- 1-61	375	Starch	39.0	26.4	32.7	38.6	28.6	33.6(8-0-8)
P-52	SC	42/42	2- 3-61	375	Starch	39.0	35.4	36.7	32.8	27.0	29.9(8-0-8)
P-53	B	42/42	2- 7-61	375	Starch	33.0	25.8	29.7	32.8	26.6	28.9(8-0-8)
P-54	B	42/42	2- 9-61	375	Starch	38.4	30.0	34.1	38.6	33.6	36.8(8-0-8)
P-55	B	42/42	2-14- 61	375	Starch	38.4	29.4	33.3	39.0	31.4	35.8(8-0-8)

TABLE A-17

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT Q
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
Q-1	B	42/42	9-27-60	280	Starch	37.2	31.2	34.4	37.0	31.0	33.5(8-0-8)
Q-2	B	42/42	9-28-60	315	Starch	37.2	31.2	34.2	35.6	24.2	29.9(8-0-8)
Q-3	B	42/42	9-28-60	285	Starch	37.8	33.6	35.2	38.8	32.6	35.8(8-0-8)
Q-4	B	42/42	10-15-60	300	Starch	28.2	22.2	26.1	30.2	15.2	23.9(8-0-8)
Q-5	B	42/42	10-24-60	360	Starch	30.6	25.2	27.4	29.4	25.8	27.0(8-0-8)
Q-6	B	42/42	10-28-60	330	Starch	31.2	27.0	29.3	30.6	24.4	26.8(8-0-8)
Q-7	B	42/42	10-28-60	310	Starch	36.0	28.2	30.4	32.8	27.8	29.4(8-0-8)
Q-8	B	42/42	11- 7-60	270	Starch	40.8	30.0	36.4	40.4	23.0	31.7(8-0-8)
Q-9	B	42/42	11- 7-60	265	Starch	39.6	29.4	34.4	38.6	32.4	36.2(8-0-8)
Q-10	B	42/42	11-15-60	350	Starch	34.2	22.8	30.1	34.4	19.0	27.3(8-0-8)
Q-11	B	42/42	11-15-60	350	Starch	34.2	28.2	31.7	33.2	26.2	29.1(8-0-8)
Q-12	B	42/42	12-20-60	300	Starch	31.2	19.2	27.4	36.0	21.4	28.8(8-0-8)
Q-13	B	42/42	12-20-60	320	Starch	31.8	27.6	29.6	29.8	23.8	26.8(8-0-8)
Q-14	B	26/42	1-17-61	305	Starch	31.8	25.8	28.6	28.2	20.0	24.0(8-0-8)
Q-15	B	42/42	2-15-61	365	Starch	43.2	32.4	36.8	37.8	25.2	30.9(8-0-8)
Q-16	B	42/42	2-15-61	365	Starch	37.2	25.8	32.1	34.2	30.4	31.8(8-0-8)

TABLE A-18

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT R
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru-gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
R-1	SC	38/42	9- 6-60	425	Starch	36.6	32.4	34.1	53.8	41.0	48.6(8-0-8)
R-2	B	42/42	9-13-60	425	Starch	36.0	26.4	30.2	49.6	41.4	44.8(10-2-8)
R-3	SC	38/38	9-13-60	400	Starch	37.2	30.6	33.2	47.6	41.8	45.8(9-1-8)
R-4	B	38/38	9-14-60	425	Starch	36.6	30.0	34.1	47.6	42.8	45.8(8-0-8)
R-5	B	42/42	9-19-60	400	Starch	37.2	27.6	33.3	48.8	41.2	44.7(8-0-8)
R-6	B	42/42	9-20-60	400	Starch	33.6	27.6	30.1	46.0	35.0	40.2(9-1-8)
R-7	B	42/42	9-21-60	425	Starch	36.0	28.8	32.2	47.0	36.8	40.6(8-0-8)
R-8	B	42/42	9-21-60	425	Starch	39.0	31.2	34.7	47.2	37.0	42.4(8-0-8)
R-9	B	42/42	9-26-60	425	Starch	36.0	27.6	31.7	43.6	35.4	39.2(8-0-8)
R-10	B	42/38	10- 6-60	350	Starch	32.4	22.2	27.4	41.4	34.0	37.7(8-0-8)
R-11	SC	42/42	10- 7-60	400	Starch	39.0	33.6	36.7	51.0	32.0	42.5(8-0-8)
R-12	SC	38/38	10-10-60	425	Starch	38.4	32.4	39.2	52.8	49.8	51.6(8-0-8)
R-13	SC	42/42	10-12-60	400	Starch	38.4	31.8	35.9	53.6	41.0	47.0(8-0-8)
R-14	SC	42/42	10-13-60	350	Starch	37.8	31.2	33.1	54.4	37.4	43.7(8-0-8)
R-15	SC	38/38	10-20-60	400	Starch	36.6	31.2	34.1	59.8	49.6	53.9(11-4-7)
R-16	B	38/38	10-26-60	400	Starch	33.0	26.4	29.4	40.0	30.6	35.8(8-0-8)
R-17	B	42/42	10-27-60	350	Starch	32.4	20.4	26.1	36.4	23.0	32.1(8-0-8)
R-18	SC	38/38	10-28-60	400	Starch	36.6	30.6	34.3	52.0	48.4	50.6(9-1-8)
R-19	SC	42/42	10-31-60	400	Starch	37.2	33.6	36.0	59.8	42.0	53.6(10-2-8)
R-20	SC	42/42	11- 2-60	400	Starch	39.0	31.8	35.5	54.6	43.4	49.5(8-0-8)
R-21	SC	42/42	11- 3-60	425	Starch	39.0	33.6	36.2	61.0	48.4	57.6(12-4-8)
R-22	B	42/42	11-11-60	450	Starch	36.6	23.4	29.9	55.0	28.8	44.6(8-0-8)
R-23	SC	42/42	11-14-60	400	Starch	39.0	30.6	34.4	54.6	43.2	49.8(8-0-8)
R-24	B	38/38	11-17-60	--	Starch	26.4	22.8	24.7	40.8	30.8	36.3(8-0-8)
R-25	SC	42/42	11-23-60	400	Starch	34.8	30.0	32.1	53.6	43.0	49.2(8-0-8)
R-26	B	42/42	11-23-60	350	Starch	34.8	30.0	32.3	44.6	40.0	43.1(8-0-8)
R-27	B	42/42	11-28-60	--	Starch	33.6	26.4	30.7	44.2	27.8	37.6(8-0-8)
R-28	SC	42/42	11-28-60	400	Starch	38.4	31.8	35.6	59.6	41.4	48.6(8-0-8)
R-29	B	42/42	11-30-60	400	Starch	34.8	26.4	31.4	45.0	29.6	35.6(8-0-8)
R-30	B	38/38	12- 1-60	375	Starch	39.0	24.0	32.0	43.6	31.4	37.0(8-0-8)

TABLE A-18 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT R
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
R-21	SC	42/42	11- 3-60	425	Starch	39.0	33.6	36.2	61.0	48.4	57.6(12-4-8)
R-22	B	42/42	11-11-60	450	Starch	36.6	23.4	29.9	55.0	28.8	44.6(8-0-8)
R-23	SC	42/42	11-14-60	400	Starch	39.0	30.6	34.4	54.6	43.2	49.8(8-0-8)
R-24	B	38/38	11-17-60	--	Starch	26.4	22.8	24.7	40.8	30.8	36.3(8-0-8)
R-25	SC	42/42	11-23-60	400	Starch	34.8	30.0	32.1	53.6	43.0	49.2(8-0-8)
R-26	B	42/42	11-23-60	350	Starch	34.8	30.0	32.3	44.6	40.0	43.1(8-0-8)
R-27	B	42/42	11-28-60	--	Starch	33.6	26.4	30.7	44.2	27.8	37.6(8-0-8)
R-28	SC	42/42	11-28-60	400	Starch	38.4	31.8	35.6	59.6	41.4	48.6(8-0-8)
R-29	B	42/42	11-30-60	400	Starch	34.8	26.4	31.4	45.0	29.6	35.6(8-0-8)
R-30	B	38/38	12- 1-60	375	Starch	39.0	24.0	32.0	43.6	31.4	37.0(8-0-8)
R-31	SC	42/42	12- 5-60	400	Starch	38.4	34.2	35.8	50.8	38.8	44.8(8-0-8)
R-32	B	42/42	12- 6-60	400	Starch	34.2	26.4	31.4	36.6	30.6	33.7(8-0-8)
R-33	B	38/38	12-13-60	375	Starch	35.4	27.6	32.8	46.0	36.6	40.9(8-0-8)
R-34	B	38/38	12-15-60	425	Starch	36.0	28.8	33.4	44.4	34.4	41.0(8-0-8)
R-35	SC	42/42	12-19-60	425	Starch	39.0	32.4	36.5	52.0	41.0	45.4(8-0-8)
R-36	B	42/42	12-27-60	400	Starch	37.8	22.8	32.5	40.0	29.0	32.7(8-0-8)
R-37	SC	42/42	12-27-60	400	Starch	41.4	31.8	37.5	50.2	34.0	41.8(8-0-8)
R-38	B	42/42	1- 3-61	400	Starch	31.8	22.2	26.3	32.2	26.0	29.0(11-3-8)
R-39	B	42/42	1- 4-61	400	Starch	39.6	32.4	34.8	45.2	37.8	42.0(10-4-6)
R-40	SC	42/42	1- 6-61	400	Starch	38.4	30.6	34.2	44.6	35.6	41.4(13-8-5)
R-41	B	42/42	1- 9-61	425	Starch	35.4	29.4	32.2	47.6	33.6	42.7(8-0-8)
R-42	B	42/42	1-11-61	425	Starch	34.2	29.4	32.4	48.2	33.8	41.9(8-0-8)
R-43	SC	42/42	1-16-61	425	Starch	44.4	34.8	39.3	51.4	44.0	47.0(8-0-8)
R-44	SC	42/42	1-17-61	400	Starch	42.0	36.0	38.7	51.4	42.0	46.8(8-0-8)
R-45	B	38/38	1-19-61	425	Starch	38.4	27.0	34.4	49.4	32.8	42.2(8-0-8)
R-46	SC	38/38	1-20-61	400	Starch	40.8	34.8	38.1	57.8	47.4	51.8(8-0-8)
R-47	B	42/42	2- 3-61	400	Starch	34.8	25.2	30.8	42.6	30.6	36.0(8-0-8)
R-48	B	42/42	2- 6-61	400	Starch	34.8	28.8	30.9	39.2	30.4	34.4(8-0-8)
R-49	B	42/42	2- 6-61	375	Starch	39.6	29.4	34.4	55.2	36.4	47.2(8-0-8)
R-50	B	38/38	--	400	Starch	29.4	25.8	27.8	39.8	29.8	34.8(8-0-8)

TABLE A-18(Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT R
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
R-51	SC	42/42	2-15-61	350	Starch	37.8	33.6	36.2	54.4	46.8	50.9(8-0-8)
R-52	B	42/42	2-21-61	400	Starch	31.8	28.8	30.2	39.2	31.6	35.2(8-0-8)
R-53	B	42/42	2-22-61	350	Starch	31.8	26.4	29.6	37.4	27.8	32.6(8-0-8)
R-54	SC	42/42	2-22-61	425	Starch	42.6	34.2	38.4	55.8	39.6	46.8(8-0-8)

TABLE A-19

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT S
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
S-1	B	42/42	9-12-60	370	Starch	34.2	28.2	31.2	51.0	41.0	44.9(8-0-8)
S-2	B	42/42	9-12-60	400	Starch	36.0	30.0	32.8	57.6	48.6	51.8(8-0-8)
S-3	SC	42/42	9-23-60	420	Starch	39.0	32.4	35.7	54.6	49.0	51.6(8-0-8)
S-4	SC	42/42	9-27-60	420	Starch	39.6	34.8	37.4	62.4	49.2	57.2(8-0-8)
S-5	SC	42/42	9-27-60	400	Starch	38.4	33.6	36.2	58.4	51.4	55.8(8-0-8)
S-6	B	42/42	10-15-60	400	Starch	34.8	29.4	31.4	47.0	34.6	40.3(8-0-8)
S-7	B	33/42	10-24-60	365	Starch	34.2	25.8	29.3	43.8	34.4	38.0(8-0-8)
S-8	B	33/42	10-24-60	370	Starch	31.8	27.0	29.9	38.4	35.8	37.0(9-1-8)
S-9	B	42/42	10-31-60	430	Starch	31.2	22.8	28.0	41.0	34.0	37.5(8-0-8)
S-10	B	38/38	11- 1-60	380	Starch	34.8	27.6	32.4	46.0	42.2	44.3(8-0-8)
S-11	SC	42/42	11-3-60	400	Starch	39.0	32.4	35.8	70.4	54.6	62.1(8-0-8)
S-12	SC	38/38	11-4-60	440	Starch	38.4	27.0	33.5	51.6	46.2	48.7(8-0-8)
S-13	SC	42/42	11-11-60	400	Starch	39.0	33.0	35.7	61.2	54.8	58.4(8-0-8)
S-14	B	42/42	11-11-60	350	Starch	38.4	27.0	33.3	46.4	40.0	43.4(8-0-8)
S-15	B	42/42	12- 1-60	380	Starch	30.0	25.2	28.1	44.4	32.8	33.4(8-0-7)
S-16	B	42/42	12- 1-60	400	Starch	34.8	30.0	31.6	48.8	39.2	45.1(8-0-8)
S-17	SC	33/42	12- 6-60	450	Starch	37.2	31.8	34.3	64.2	58.0	61.9(8-0-8)
S-18	SC	33/42	12- 6-60	440	Starch	36.6	31.8	34.0	58.4	45.6	54.5(8-0-8)
S-19	B	47/47	12-20-60	380	Starch	34.8	28.2	31.0	37.8	33.4	35.1(8-0-8)
S-20	SC	42/42	1-11-61	--	Starch	36.0	30.0	33.4	50.4	42.2	46.4(8-0-8)
S-21	SC	42/42	1-16-61	350	Starch	40.2	31.2	37.0	60.2	45.8	54.0(8-0-8)
S-22	SC	42/42	1-16-61	360	Starch	43.2	33.0	38.6	58.6	45.8	52.9(8-0-8)
S-23	SC	42/42	1-17-61	400	Starch	39.0	33.0	36.1	64.2	54.2	60.3(8-0-8)
S-24	SC	33/42	1-17-61	415	Starch	39.0	32.4	35.4	63.2	55.6	58.9(11-4-7)
S-25	SC	42/42	2- 3-61	445	Starch	36.6	28.8	33.8	50.2	40.6	44.9(8-0-8)
S-26	SC	42/42	2- 3-61	445	Starch	39.0	32.4	35.0	52.6	43.2	47.6(8-0-8)

TABLE A-20

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT T
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
T-3	SC	42/42	9- 1-60	330	Starch	37.8	33.6	36.1	45.0	43.4	44.1(8-0-8)
T-6	SC	42/42	9-27-60	330	Starch	37.2	32.4	35.0	50.0	41.2	44.1(8-0-8)
T-7	K	42/42	10- 3-60	320	Starch	42.6	39.0	40.3	46.4	42.4	44.7(8-0-8)
T-9	SC	42/42	10- 6-60	320	Starch	36.6	31.8	34.4	48.2	43.4	45.4(8-0-8)
T-11	SC	42/42	10-11-60	350	Starch	36.0	32.4	34.3	44.2	40.6	43.2(8-0-8)
T-12	K	42/42	10-12-60	310	Starch	40.2	32.4	37.0	46.0	39.2	42.1(8-0-8)
T-14	SC	42/42	10-20-60	313	Starch	37.8	32.4	34.8	49.8	42.2	45.8(8-0-8)
T-15	SC	42/42	11- 1-60	300	Starch	33.0	29.4	31.4	45.8	41.0	43.4(8-0-8)
T-16	SC	42/42	11- 7-60	320	Starch	37.2	31.2	34.0	45.8	36.0	42.2(8-0-8)
T-17	SC	42/42	11-14-60	300	Starch	36.0	31.8	33.9	45.6	41.8	43.6(8-0-8)
T-18	SC	33/42	11-30-60	300	Starch	35.4	30.0	32.8	44.8	38.0	42.2(8-0-8)
T-19	SC	33/42	12-19-60	300	Starch	41.4	33.6	36.8	46.2	40.6	43.5(8-0-8)
T-20	SC	42/42	12-21-60	300	Starch	37.8	32.4	35.2	46.4	41.2	43.8(8-0-8)
T-21	SC	26/42	12-28-60	300	Starch	34.2	29.4	31.3	39.8	34.0	36.8(8-0-8)
T-22	SC	42/42	1-12-61	300	Starch	36.6	32.4	34.5	42.2	37.0	40.6(8-0-8)
T-23	K	42/42	1-25-61	295	Starch	24.0	18.0	21.2	26.0	23.4	24.4(8-0-8)
T-24	SC	33/42	2- 8-61	320	Starch	34.8	29.4	31.9	43.4	34.6	38.5(8-0-8)
T-25	SC	33/42	2-15-61	300	Starch	31.8	27.6	29.0	37.6	36.0	36.7(8-0-8)
T-26	SC	42/42	2-15-61	308	Starch	32.4	30.0	31.0	43.0	34.8	37.4(8-0-8)
T-27	SC	42/42	2-16-61	300	Starch	37.2	35.4	36.4	50.2	38.8	44.3(8-0-8)
T-28	SC	42/42	2-15-61	300	Starch	36.0	31.8	33.8	46.4	40.8	44.1(8-0-8)
T-29	SC	42/42	2-16-61	310	Starch	35.4	30.0	33.1	44.2	41.2	42.8(8-0-8)
T-30	SC	42/42	2-16-61	330	Starch	36.0	31.8	34.3	46.0	39.6	42.9(8-0-8)
T-31	SC	33/42	2-20-61	290	Starch	36.6	33.6	36.0	51.8	41.8	46.2(8-0-8)
T-32	SC	33/38	2-21-61	300	Starch	40.2	29.4	34.0	43.8	40.2	41.5(8-0-8)
T-33	SC	42/42	2-21-61	305	Starch	32.4	27.6	30.4	42.0	36.6	39.5(8-0-8)
T-34	SC	42/42	2-21-61	300	Starch	31.8	28.8	30.4	40.2	37.6	39.1(8-0-8)
T-35	SC	42/42	2-23-61	300	Starch	31.8	27.0	29.4	39.2	35.6	37.8(8-0-8)
T-36	SC	42/42	2-23-61	308	Starch	34.8	32.4	33.6	40.8	37.4	38.6(8-0-8)
T-37	SC	42/42	2-24-61	340	Starch	31.2	27.6	29.8	44.4	37.6	40.4(8-0-8)

TABLE A-20(Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT T
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
T-38	SC	42/42	2-23-61	310	Starch	34.8	27.0	30.5	41.4	37.6	37.9(8-0-8)
T-39	SC	42/42	2-24-61	300	Starch	38.4	33.6	35.8	47.2	39.4	43.2(8-0-8)
T-40	K	42/42	2-29-61	300	Starch	43.8	35.4	39.5	47.8	43.2	45.0(8-0-8)
T-41	SC	33/42	2-27-61	300	Starch	38.4	33.0	35.4	44.2	39.4	42.1(8-0-8)
T-42	SC	42/42	2-28-61	310	Starch	39.0	34.8	36.4	49.2	40.6	44.5(8-0-8)
T-43	SC	42/38		300	Starch	35.4	30.6	33.7	42.6	39.4	41.0(8-0-8)
T-44	SC	42/42	3- 1-61	340	Starch	35.4	30.0	32.9	46.6	37.2	42.1(8-0-8)
T-45	SC	42/42	3- 1-61	310	Starch	33.6	27.0	30.2	41.8	33.4	36.7(8-0-8)
T-46	SC	42/42	3- 1-61	300	Starch	36.6	28.8	33.2	40.8	35.6	37.8(8-0-8)
T-47	SC	42/42	3- 2-61	310	Starch	31.8	28.2	29.8	40.4	33.0	37.2(8-0-8)
T-48	SC	42/42		320	Starch	32.4	27.0	30.4	39.4	36.6	38.4(8-0-8)
T-49	SC	42/42	3- 2-61	300	Starch	31.2	27.0	28.6	41.2	33.4	36.2(8-0-8)
T-50	SC	42/42	3- 3-61	300	Starch	35.4	28.8	32.2	41.8	36.8	39.9(8-0-8)
T-51	SC	33/42	3- 6-61	300	Starch	37.2	31.8	33.2	42.8	36.8	39.4(8-0-8)
T-52	SC	42/42	3- 6-61	340	Starch	33.6	28.2	35.0	40.2	34.4	37.0(8-0-8)
T-53	SC	42/42	3- 7-61	360	Starch	32.4	26.4	29.4	38.8	34.0	36.4(8-0-8)
T-54	SC	42/42	3- 7-61	300	Starch	36.6	28.8	33.2	42.4	38.4	40.5(8-0-8)
T-55	SC	42/42	3- 8-61	310	Starch	36.6	28.8	32.8	42.2	37.2	39.5(8-0-8)
T-56	SC	42/42	3- 8-61	300	Starch	33.0	28.2	36.0	39.0	33.8	36.7(8-0-8)
T-57	SC	42/42	3- 9-61	340	Starch	35.4	30.0	32.9	44.2	39.0	41.6(8-0-8)

TABLE A-21

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT U
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
U-1	SC	42/42	10-7-60	500	Starch	36.0	27.0	32.1	48.4	43.8	46.0(8-0-8)
U-2	SC	42/42	10-3-60	475	Starch	33.0	27.6	30.8	46.8	37.0	41.1(8-0-8)
U-3	SC	42/42	10-27-60	450	Starch	38.4	26.4	32.8	52.8	40.4	45.9(8-0-8)
U-4	SC	42/42	10-31-60	350	Starch	34.2	28.8	31.9	44.2	38.4	40.9(8-0-8)
U-5	SC	42/42	11-23-60	500	Starch	38.4	28.8	33.3	45.8	38.0	42.2(8-0-8)
U-6	SC	42/42	12- 6-60	300	Starch	33.6	27.6	31.2	42.0	33.2	38.9(8-0-8)

TABLE A-22

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT V
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
V-1	SC	38/42	9- 6-60	275	Starch	40.2	36.0	37.8	33.6	31.0	32.0(8-0-8)
V-2	SC	38/38	9- 8-60	420	Starch	41.4	34.8	38.0	36.2	28.8	33.6(8-0-8)
V-3	SC	38/38	9-15-60	300	Starch	42.0	34.8	37.6	37.4	33.6	35.2(8-0-8)
V-4	SC	38/42	9-16-60	385	Starch	40.2	35.4	38.6	38.6	34.2	36.2(8-0-8)
V-5	SC	42/42	9-19-60	290	Starch	39.0	34.2	36.7	34.6	29.2	32.0(8-0-8)
V-6	SC	38/42	9-29-60	355	Starch	45.0	37.8	41.0	36.8	33.6	35.5(8-0-8)
V-7	SC	42/42	9-23-60	280	Starch	36.6	31.8	34.2	29.6	23.2	26.3(8-0-8)
V-8	SC	42/42	9-28-60	375	Starch	41.4	37.2	39.3	37.2	32.4	34.3(8-0-8)
V-9	SC	52/42	9-30-60	290	Starch	42.0	37.8	39.2	39.6	32.2	36.6(8-0-8)
V-10	SC	33/42	10- 5-60	300	Starch	37.8	34.8	36.2	36.4	31.8	34.1(8-0-8)
V-11	SC	52/42	10- 7-60	300	Starch	40.8	36.6	38.2	37.8	34.6	36.2(8-0-8)
V-12	SC	42/42	10-11-60	340	Starch	41.4	33.6	36.4	34.4	30.6	32.6(8-0-8)
V-13	SC	52/42	10-13-60	415	Starch	36.0	32.4	34.6	36.6	32.0	34.0(8-0-8)
V-14	B	42/42	10-17-60	220	Starch	42.6	32.4	36.8	33.4	26.0	30.6(8-0-8)
V-15	B	52/42	10-19-60	270	Starch	34.8	28.2	32.0	32.2	26.4	29.7(8-0-8)
V-16	B	42/42	10-20-60	425	Starch	39.0	33.0	35.3	35.8	29.4	32.5(8-0-8)
V-17	B	42/42	10-25-60	375	Starch	39.0	33.6	35.7	36.8	30.0	33.2(8-0-8)
V-18	SC	47/42	10-31-60	325	Starch	40.2	36.6	38.1	35.6	32.4	34.1(8-0-8)
V-19	SC	26/42	10-31-60	320	Starch	42.6	38.4	40.4	38.2	33.8	36.1(8-0-8)
V-20	SC	42/42	11- 2-60	375	Starch	39.0	35.4	37.0	34.2	29.8	31.4(8-0-8)
V-21	SC	42/42	11- 8-60	400	Starch	40.8	34.8	37.6	37.6	32.6	34.5(8-0-8)
V-22	SC	42/42	11-10-60	275	Starch	40.8	33.0	36.3	37.6	33.4	35.2(8-0-8)
V-23	SC	33/42	11-14-60	350	Starch	37.2	33.6	35.4	37.8	32.4	34.2(8-0-8)
V-24	SC	42/42	11-16-60	325	Starch	40.2	34.8	36.8	35.8	31.4	34.3(8-0-8)
V-25	SC	52/52	11-23-60	225	Starch	37.2	32.4	35.0	37.0	32.6	34.6(8-0-8)
V-26	SC	42/42	11-25-60	310	Starch	37.2	34.2	35.8	36.4	31.4	33.4(8-0-8)
V-27	SC	52/52	11-29-60	325	Starch	37.2	31.8	34.8	35.4	31.4	33.4(8-0-8)
V-28	SC	33/42	12- 2-60	300	Starch	42.0	34.8	38.5	34.8	31.0	33.2(8-0-8)
V-29	SC	52/42	12- 6-60	375	Starch	40.8	34.8	38.5	35.4	30.0	32.7(8-0-8)
V-31	SC	52/52	12-13-60	375	Starch	42.0	37.2	40.1	36.2	33.2	34.4(8-0-8)

TABLE A-22 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT V
(A—Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
V-32	SC	42/42	12-15-60	380	Starch	42.0	34.2	37.0	37.6	28.6	33.3(8-0-8)
V-33	SC	52/42	12-19-60	350	Starch	38.4	33.6	36.5	35.4	31.4	33.2(8-0-8)
V-34	SC	47/47	12-21-60	425	Starch	40.2	36.0	38.1	36.4	33.0	34.2(8-0-8)
V-35	SC	42/52	12-26-60	325	Starch	39.0	33.6	36.7	37.2	34.4	35.5(8-0-8)
V-36	SC	42/52	12-29-60	400	Starch	40.2	36.6	38.6	37.4	34.2	35.4(8-0-8)
V-37	SC	42/52	1- 3-61	375	Starch	39.6	35.4	36.7	38.0	33.8	35.9(8-0-8)
V-38	SC	52/42	1- 5-61	275	Starch	41.4	33.0	35.8	33.6	29.0	31.5(8-0-8)
V-39	SC	42/42	1-10-61	300	Starch	42.0	34.2	38.7	32.2	28.8	30.4(8-0-8)
V-40	SC	42/42	1-12-61	280	Starch	40.8	35.4	39.3	38.4	31.8	35.0(8-0-8)
V-41	SC	42/42	1-16-61	300	Starch	40.8	34.8	37.7	34.2	28.8	32.5(8-0-8)
V-42	SC	42/42	1-16--61	325	Starch	37.2	33.0	35.3	30.8	26.2	28.7(8-0-8)
V-43	SC	52/42	1-20-61	275	Starch	42.0	36.0	38.6	31.6	28.0	29.6(8-0-8)
V-44	SC	52/52	1-25-61	325	Starch	41.4	37.2	40.0	37.2	31.0	35.1(8-0-8)
V-45	SC	42/42	1-30-61	300	Starch	41.4	37.8	40.0	38.0	33.4	35.2(8-0-8)
V-46	SC	42/42	2- 1-61	345	Starch	46.8	35.4	40.7	37.6	30.4	34.1(8-0-8)
V-47	SC	52/52	2- 6-61	320	Starch	42.6	37.8	39.7	38.6	34.0	35.8(8-0-8)
V-48	SC	52/42	2- 9-61	350	Starch	39.6	34.8	36.9	33.4	28.0	30.6(8-0-8)
V-49	SC	42/42	2-14-61	355	Starch	43.2	36.0	38.6	34.6	32.4	33.8(8-0-8)
V-50	SC	33/42	2-16-61	350	Starch	41.4	36.0	37.6	35.8	32.2	34.1(8-0-8)
V-51	S	42/42	2-20-61	375	Starch	36.0	28.8	32.1	31.8	26.8	28.7(8-0-8)
V-52	SC	42/42	2-22-61	325	Starch	40.8	33.6	37.2	33.4	30.8	31.8(8-0-8)
V-53	SC	42/42	2-24-61	330	Starch	39.0	35.4	37.5	34.6	30.2	32.2(8-0-8)
V-54	SC	42/42	2-27-61	370	Starch	42.0	35.4	38.1	34.0	28.6	31.6(8-0-8)
V-55	S	42/42	2-28-61	345	Starch	34.8	28.8	32.2	33.2	28.6	30.5(8-0-8)

TABLE A-23

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT W
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
W-1	SC	42/42	9- 6-60	420	Starch	37.8	30.0	35.0	36.0	30.8	33.4(8-0-8)
W-2	SC	42/42	9- 8-60	375	Starch	40.8	33.6	37.3	42.4	34.8	37.6(8-0-8)
W-3	SC	42/42	9-13-60	350	Starch	31.2	27.0	29.7	31.8	28.8	29.8(8-0-8)
W-4	SC	42/42	9-20-60	350	Starch	36.6	31.2	33.3	33.8	27.6	30.8(8-0-8)
W-5	SC	42/42	9-28-60	350	Starch	46.8	35.4	40.1	43.2	36.8	39.0(8-0-8)
W-6	SC	42/42	10- 1-60	350	Starch	39.0	30.6	34.6	35.4	30.0	33.0(8-0-8)
W-7	SC	42/42	10- 1-60	350	Starch	37.2	33.0	35.1	38.4	28.8	31.4(8-0-8)
W-8	SC	42/42	10- 1-60	400	Starch	34.8	28.8	32.0	35.0	24.8	29.1(8-0-8)
W-9	SC	42/42	10-25-60	300	Starch	40.2	32.4	36.1	34.8	28.6	30.6(8-0-8)
W-10	SC	42/42	10-24-60	400	Starch	34.8	30.0	33.1	35.4	28.0	32.0(8-0-8)
W-11	SC	42/42	11-14-60	340	Starch	35.4	27.6	31.1	31.0	24.8	29.0(8-0-8)
W-12	SC	42/42	11-15-60	375	Starch	37.2	31.8	34.0	31.4	26.0	29.5(11-4-7)
W-13	SC	42/42	11-15-60	300	Starch	41.4	34.2	37.5	39.0	28.0	33.7(8-0-8)
W-14	SC	42/42	11-16-60	360	Starch	36.6	31.2	34.6	36.2	22.0	30.0(8-0-8)
W-15	SC	42/42	11-16-60	350	Starch	33.0	28.8	31.0	29.0	21.6	26.4(8-0-8)
W-16	SC	42/42	11-17-60	350	Starch	34.8	28.8	32.2	29.8	22.0	25.0(8-0-8)
W-17	SC	42/42	11-21-60	300	Starch	31.2	28.2	30.0	30.0	22.8	26.4(8-0-8)
W-18	SC	42/42	11-22-60	300	Starch	39.0	31.8	35.7	39.6	33.6	36.1(8-0-8)
W-19	SC	42/42	11-25-60	340	Starch	35.4	32.4	34.6	33.2	29.4	31.0(8-0-8)
W-20	SC	42/42	11-28-60	300	Starch	36.0	31.2	33.6	29.4	23.0	26.1(8-0-8)
W-21	SC	42/42	11-28-60	350	Starch	34.8	30.0	32.2	32.6	27.6	29.2(8-0-8)
W-22	SC	42/42	11-29-60	350	Starch	37.8	32.4	34.8	30.4	22.0	28.2(8-0-8)
W-23	SC	42/42	11-29-60	300	Starch	37.8	31.2	35.0	35.6	30.0	33.1(8-0-8)
W-24	SC	42/42	12-14-60	400	Starch	33.6	27.6	30.6	32.6	24.0	29.2(8-0-8)
W-25	SC	42/42	12-14-60	375	Starch	32.4	27.6	29.6	32.0	25.0	27.4(8-0-8)
W-26	SC	42/42	12- 8-60	375	Starch	39.0	34.2	37.0	36.0	32.6	34.6(8-0-8)
W-27	SC	42/42	12-20-60	400	Starch	43.2	38.4	40.9	38.8	28.0	33.5(8-0-8)
W-28	SC	42/42	12-20-60	350	Starch	40.8	34.2	37.1	40.0	26.6	35.7(8-0-8)
W-29	SC	42/42	12-20-60	375	Starch	44.4	35.4	39.4	40.0	29.0	34.4(8-0-8)
W-30	SC	42/42	12-20-60	375	Starch	45.6	38.4	42.0	39.8	31.0	36.1(8-0-8)

TABLE A-23 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT W
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
W-31	SC	42/42	12-20-60	400	Starch	34.8	29.4	31.7	31.4	27.0	29.7(8-0-8)
W-32	SC	42/42	12-21-60	375	Starch	40.8	37.2	38.4	38.8	29.6	34.4(8-0-8)
W-33	SC	42/42	12-21-60	400	Starch	39.0	34.2	37.5	33.8	27.0	31.8(8-0-8)
W-34	SC	42/42	12-23-60	350	Starch	33.0	27.6	29.9	32.0	21.4	27.5(8-0-8)
W-35	SC	42/42	12-28-60	300	Starch	35.4	30.6	33.6	34.0	28.2	31.2(8-0-8)
W-36	SC	42/42	12-28-60	375	Starch	36.0	28.8	32.2	33.4	30.0	31.6(8-0-8)
W-37	SC	42/42	12-28-60	400	Starch	39.6	35.4	38.2	37.4	30.0	34.3(8-0-8)
W-38	SC	42/42	12-28-60	375	Starch	36.6	28.8	32.8	32.2	25.2	28.2(8-0-8)
W-39	SC	42/42	12-28-60	400	Starch	39.0	30.6	33.6	32.4	25.6	29.9(8-0-8)
W-40	SC	42/42	1-11-61	375	Starch	36.0	30.0	33.5	35.6	29.0	32.1(8-0-8)
W-41	SC	42/42	1-20-61	350	Starch	40.2	34.2	36.9	37.6	32.6	34.6(8-0-8)
W-42	SC	42/42	1-20-61	375	Starch	37.8	34.2	36.2	41.4	30.4	36.0(8-0-8)
W-43	SC	42/42	1-27-61	300	Starch	42.6	34.2	38.3	37.8	31.4	34.2(8-0-8)
W-44	SC	42/42	1-31-61	300	Starch	42.0	36.0	38.2	36.2	32.2	33.8(8-0-8)
W-45	SC	42/42	2- 1-61	300	Starch	38.4	33.6	37.4	34.6	30.2	32.4(8-0-8)
W-46	SC	42/42	2- 1-61	350	Starch	38.4	32.4	36.0	35.6	30.6	33.5(8-0-8)
W-47	SC	42/42	2- 8-61	240	Starch	40.2	34.2	37.0	37.0	29.6	34.0(8-0-8)
W-48	SC	42/42	2- 8-61	300	Starch	36.0	30.6	33.4	34.0	29.6	31.2(8-0-8)
W-49	SC	42/42	2-13-61	300	Starch	33.0	28.8	31.6	33.2	26.8	29.4(8-0-8)
W-50	SC	42/42	2-14-61	300	Starch	34.2	27.6	30.4	26.2	23.6	24.6(8-0-8)
W-51	SC	42/42	2-21-61	300	Starch	37.8	33.0	34.9	33.6	28.8	29.9(8-0-8)
W-52	SC	42/42	2-21-61	350	Starch	37.2	31.2	34.1	32.6	27.0	29.0(8-0-8)
W-53	SC	42/42	2-21-61	350	Starch	36.6	32.4	33.9	29.8	24.6	27.6(8-0-8)
W-54	SC	42/42	2-23-61	400	Starch	36.0	32.4	34.5	29.8	23.4	27.3(8-0-8)

TABLE A-24

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT X
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
X-1	SC	54/54	9- 6-60	340	Starch	42.0	36.0	38.9	56.2	40.0	50.3(8-0-8)
X-2	SC	42/42	9- 9-60	330	Starch	41.4	36.0	39.2	61.0	53.0	55.0(8-0-8)
X-3	K	33/42	9-14-60	320	Starch	37.2	30.0	32.6	31.0	19.6	27.5(8-0-8)
X-4	SC	42/42	9-16-60	280	Starch	42.0	37.8	39.8	57.0	47.2	50.4(8-0-8)
X-5	SC	52/42	9-19-60	330	Starch	38.4	35.4	36.8	56.0	47.2	52.1(8-0-8)
X-6	SC	33/42	9-21-60	270	Starch	36.0	30.0	33.4	47.6	38.0	42.7(8-0-8)
X-7	SC	42/42	9-22-60	400	Starch	37.2	33.6	35.9	50.4	42.2	45.8(8-0-8)
X-8	S	42/42	9-26-60	370	Starch	34.2	30.0	32.0	51.8	42.4	46.7(8-0-8)
X-9	SC	42/42	9-29-60	350	Starch	34.8	30.6	33.2	45.4	37.4	42.2(8-0-8)
X-10	SC	42/42	10- 4-60	375	Starch	37.2	32.4	34.6	53.0	42.8	46.9(8-0-8)
X-11	SC	42/42	10- 6-60	370	Starch	39.0	32.4	35.5	53.8	45.2	49.4(9-1-8)
X-12	K	42/42	10-10-60	410	Starch	33.6	25.2	30.0	33.6	29.0	31.5(8-0-8)
X-13	B	33/42	10-11-60	350	Starch	28.2	23.4	26.0	34.8	28.8	32.4(8-0-8)
X-14	SC	33/42	10-14-60	375	Starch	34.2	28.8	31.5	50.0	39.8	45.7(8-0-8)
X-15	SC	33/42	10-19-60	370	Starch	34.2	29.4	32.0	50.4	43.6	46.8(9-1-8)
X-16	SC	42/42	10-20-60	295	Starch	37.8	33.0	35.5	53.0	49.0	51.2(8-0-8)
X-17	B	42/42	10-26-60	400	Starch	37.8	30.6	34.4	53.4	45.0	48.7(9-1-8)
X-18	SC	42/42	10-28-60	300	Starch	42.6	36.0	39.4	65.0	55.6	60.4(13-5-8)
X-19	B	42/42	11- 2-60	220	Starch	39.6	31.8	34.6	53.8	43.6	48.4(8-0-8)
X-20	B	42/42	11- 4-60	260	Starch	27.6	21.6	25.4	34.0	29.0	31.6(8-0-8)
X-21	B	33/42	11- 7-60	280	Starch	32.4	28.2	29.8	37.8	30.8	34.2(8-0-8)
X-22	B	42/42	11- 9-60	350	Starch	31.2	27.0	28.9	40.2	35.2	37.7(8-0-8)
X-23	SC	33/42	11-15-60	375	Starch	40.2	36.0	37.5	62.0	52.0	58.9(8-0-8)
X-24	B	33/42	11-17-60	320	Starch	32.4	28.8	30.4	38.6	31.0	35.1(8-0-8)
X-25	SC	52/42	11-21-60	310	Starch	40.8	34.8	37.0	54.4	49.6	51.7(8-0-8)
X-26	SC	52/42	11-22-60	390	Starch	38.4	34.8	36.5	64.0	48.6	55.6(8-0-8)
X-27	SC	33/42	11-28-60	400	Starch	42.6	37.2	39.4	53.4	48.6	51.0(8-0-8)
X-28	SC	33/42	12- 1-60	340	Starch	40.2	33.6	37.6	64.8	59.2	62.0(8-0-8)
X-29	SC	42/42	12- 5-60	410	Starch	41.4	36.6	39.8	62.6	53.2	57.9(8-0-8)
X-31	SC	42/42	12-12-60	375	Starch	39.6	34.8	36.8	64.0	58.0	60.7(9-2-7)

TABLE A-24 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT X
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F. lb./M sq.ft.	Date Corru-gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
X-32	SC	42/42	12-14-60	325	Starch	38.4	31.2	35.0	50.4	43.8	46.6(11-4-7)
X-33	SC	42/42	12-16-60	400	Starch	40.2	30.6	34.5	49.6	44.0	47.3(9-1-8)
X-34	SC	42/42	12-20-60	390	Starch	40.8	34.8	37.2	51.2	41.8	46.8(9-1-8)
X-35	SC	42/42	12-23-60	375	Starch	40.8	34.8	38.8	56.6	43.6	48.6(10-3-7)
X-36	SC	42/42	12-27-60	325	Starch	42.6	35.4	39.5	52.8	46.4	50.4(8-0-8)
X-37	SC	42/42	1- 4-61	345	Starch	39.6	34.8	37.3	51.6	45.8	47.8(8-0-8)
X-38	K	33/42	1- 6-61	345	Starch	35.4	29.4	31.5	32.2	27.0	29.8(12-4-8)
X-39	K	33/42	1-11-61	275	Starch	33.6	30.0	31.6	34.2	25.8	31.0(8-0-8)
X-40	SC	42/42	1-13-61	280	Starch	39.6	34.8	37.0	52.8	47.8	49.5(8-0-8)
X-41	SC	33/42	1-17-61	350	Starch	39.0	36.0	37.3	50.0	43.6	48.6(8-0-8)
X-42	SC	47/47	1-19-61	380	Starch	36.6	32.4	34.2	50.2	43.2	46.2(8-0-8)
X-43	K	33/42	1-23-61	400	Starch	33.6	27.6	31.4	33.4	26.0	31.4(8-0-8)
X-44	SC	42/42	1-30-61	375	Starch	41.4	34.2	37.6	44.0	40.2	42.9(8-0-8)
X-45	K	33/42	1-31-61	375	Starch	34.8	30.6	32.3	31.4	38.6	30.1(8-0-8)
X-46	SC	42/42	2- 1-61	365	Starch	37.8	32.4	35.1	48.0	42.6	44.8(8-0-8)
X-47	SC	42/42	2- 5-61	350	Starch	40.8	35.4	38.1	52.6	44.2	49.9(8-0-8)
X-48	SC	42/42	2- 8-61	340	Starch	38.4	34.2	36.8	57.4	46.8	52.4(8-0-8)
X-49	SC	42/42	2-13-61	335	Starch	41.4	30.6	38.4	54.2	49.0	52.4(8-0-8)
X-50	SC	42/42	2-15-61	400	Starch	43.2	36.6	39.4	59.0	49.2	54.2(8-0-8)
X-51	SC	42/54	2-17-61	380	Starch	37.2	33.6	35.5	50.0	47.2	48.6(8-0-8)
X-52	SC	42/42	2-21-61	375	Starch	45.0	37.8	41.5	57.0	50.4	53.8(9-1-8)
X-53	SC	42/42	2-23-61	345	Starch	39.6	36.0	37.9	54.2	48.0	50.4(8-0-8)
X-54	SC	42/42	2-24-61	370	Starch	43.2	37.2	39.4	55.4	52.0	54.0(10-2-8)
X-55	SC	42/54	2-28-61	365	Starch	37.2	34.8	36.3	55.0	48.8	51.2(8-0-8)

TABLE A-25

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT Y
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
Y-1	SC	42/42	9- 9-60	450	Starch	39.6	32.4	37.0	52.2	45.6	49.2 (8-0-8)
Y-2	SC	42/42	9-10-60	400	Starch	36.6	33.0	35.3	50.2	40.4	45.1 (8-0-8)
Y-3	SC	42/42	9-14-60	400	Starch	37.8	28.8	32.3	46.4	38.2	41.8 (8-0-8)
Y-4	SC	42/42	9-16-60	400	Starch	37.2	29.4	32.8	46.6	37.4	42.3 (8-0-8)
Y-5	SC	42/42	9-19-60	400	Starch	30.6	24.0	26.6	42.6	38.2	40.9 (8-0-8)
Y-6	SC	42/42	10- 4-60	400	Starch	37.8	31.2	33.8	40.2	35.2	38.1 (8-0-8)
Y-7	B	42/42	10- 4-60	400	Starch	33.0	25.2	29.9	35.6	28.4	30.8 (8-0-8)
Y-8	B	42/42	10- 4-60	400	Starch	31.8	26.4	29.8	31.4	26.6	28.7 (8-0-8)
Y-9	SC	42/42	10-21-60	400	Starch	32.4	26.4	29.2	34.8	30.0	31.6 (8-0-8)
Y-10	SC	42/42	10-26-60	400	Starch	40.2	33.6	37.5	46.4	40.4	43.4 (8-0-8)
Y-11	B	42/42	11- 4-60	300	Starch	36.0	28.2	32.3	39.0	31.6	35.2 (8-0-8)
Y-12	SC	42/42	11- 7-60	350	Starch	34.2	28.8	31.5	47.6	39.2	43.2 (8-0-8)
Y-13	SC	42/42	11- 9-60	350	Starch	36.0	30.6	33.4	44.6	32.8	39.6 (8-0-8)
Y-14	SC	42/42	11- 9-60	350	Starch	35.4	30.0	33.1	45.6	37.6	42.2 (8-0-8)
Y-15	SC	42/42	11-17-60	280	Starch	34.8	29.4	32.7	43.0	33.4	39.0 (8-0-8)
Y-16	SC	42/42	11-17-60	375	Starch	32.4	28.2	29.8	39.2	28.4	33.8 (8-0-8)
Y-17	SC	42/42	11-18-60	320	Starch	34.8	28.2	32.8	46.6	40.2	42.4 (8-0-8)
Y-18	SC	42/42	11-18-60	300	Starch	41.4	34.2	36.4	54.4	39.6	47.4 (8-0-8)
Y-19	SC	42/42	11-18-60	350	Starch	36.0	30.6	32.7	43.0	32.0	38.6 (8-0-8)
Y-20	SC	42/42	11-18-60	400	Starch	37.8	31.8	34.7	46.4	41.0	43.1 (8-0-8)
Y-21	SC	42/42	11-19-60	400	Starch	33.6	27.6	30.8	48.0	30.0	39.2 (8-0-8)
Y-22	SC	42/42	11-23-60	350	Starch	32.4	28.8	31.0	37.2	32.0	34.8 (8-0-8)
Y-23	SC	42/42	11-23-60	400	Starch	36.6	31.2	32.9	47.0	39.2	41.7 (8-0-8)
Y-24	SC	42/42	11-23-60	300	Starch	35.4	31.2	33.4	45.0	35.0	39.8 (8-0-8)
Y-25	SC	42/42	12- 2-60	350	Starch	40.2	31.2	33.4	48.2	35.4	41.4 (8-0-8)
Y-26	SC	42/42	12- 6-60	400	Starch	34.2	28.2	31.3	40.6	35.0	39.1 (8-0-8)
Y-27	SC	42/42	12- 5-60	400	Starch	38.4	33.6	36.7	49.2	42.0	43.8 (8-0-8)
Y-28	SC	42/42	12- 9-60	300	Starch	33.6	30.0	32.0	44.8	37.0	39.4 (8-0-8)
Y-29	SC	42/42	12-27-60	300	Starch	39.0	33.6	36.4	46.8	41.8	44.0 (8-0-8)
Y-30	SC	42/42	12-27-60	350	Starch	39.0	31.8	36.2	46.6	39.8	43.4 (8-0-8)

TABLE A-25 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT Y
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
Y-31	SC	42/42	12-28-60	350	Starch	37.2	29.4	32.8	42.4	31.0	37.2 (8-0-8)
Y-32	SC	42/42	12-28-60	375	Starch	36.6	32.4	34.3	47.0	41.4	43.6 (8-0-8)
Y-33	SC	42/42	1- 5-61	350	Starch	36.0	33.0	34.7	46.2	32.8	40.5 (8-0-8)
Y-34	SC	42/42	1- 5-61	300	Starch	38.4	31.8	35.6	45.2	35.0	40.1 (8-0-8)
Y-35	SC	42/42	1-11-61	400	Starch	39.0	34.8	37.4	49.0	40.6	45.8 (8-0-8)
Y-36	SC	42/42	1-11-61	375	Starch	36.0	31.2	33.4	43.6	37.8	40.6 (8-0-8)
Y-37	SC	42/42	1-11-61	375	Starch	33.0	29.4	31.6	41.8	37.4	39.9 (8-0-8)
Y-38	SC	42/42	1-12-61	400	Starch	34.8	28.2	31.0	40.2	34.0	37.6 (8-0-8)
Y-39	SC	42/42	1-21-61	400	Starch	34.8	28.2	31.0	43.2	37.2	39.8 (8-0-8)
Y-40	SC	42/42	1-24-61	300	Starch	40.2	34.8	37.5	43.8	37.6	40.2 (8-0-8)
Y-41	SC	42/42	1-24-61	300	Starch	41.4	34.2	37.1	50.6	42.2	46.6 (8-0-8)
Y-42	SC	42/42	1-25-61	400	Starch	39.6	30.0	34.2	41.6	36.6	38.3 (8-0-8)
Y-43	SC	42/42	1-25-61	400	Starch	40.2	31.8	36.5	44.2	34.0	40.2 (8-0-8)
Y-44	SC	42/42	1-25-61	375	Starch	38.4	30.0	33.8	39.8	36.4	37.6 (8-0-8)
Y-45	SC	42/42	1-25-61	400	Starch	38.4	31.8	34.0	42.4	36.8	38.8 (8-0-8)
Y-46	SC	42/42	1-25-61	300	Starch	41.4	35.4	38.0	47.0	41.8	44.6 (8-0-8)
Y-47	SC	42/42	1-25-61	300	Starch	36.6	33.0	34.8	45.0	39.0	41.2 (8-0-8)
Y-48	SC	42/42	2-16-61	300	Starch	36.6	30.0	34.0	42.2	33.4	37.4 (8-0-8)
Y-49	SC	42/42	2-16-61	300	Starch	36.0	32.4	34.0	42.2	34.0	37.2 (8-0-8)
Y-50	SC	42/42	2-16-61	300	Starch	37.2	31.2	33.5	45.8	33.2	41.4 (8-0-8)
Y-51	SC	42/42	2-17-61	300	Starch	34.8	30.0	32.4	41.4	35.2	38.4 (8-0-8)
Y-52	SC	42/42	2-17-61	300	Starch	33.0	27.6	30.8	46.2	33.8	37.6 (8-0-8)
Y-53	SC	42/42	2-17-61	380	Starch	36.0	31.8	34.3	43.0	35.6	40.4 (9-1-8)
Y-54	SC	42/42	2-17-61	400	Starch	40.2	31.8	35.2	46.4	37.4	41.5 (8-0-8)

TABLE A-26

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT Z
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
Z-1	B	42/42	9- 1-60	260	Starch	30.6	25.2	27.8	37.6	29.2	32.8 (8-0-8)
Z-2	SC	42/42	9- 8-60	260	Starch	43.8	34.8	38.7	51.8	44.4	48.6 (8-0-8)
Z-3	B	42/42	9-10-60	280	Starch	34.2	31.2	32.6	45.4	37.8	41.8 (8-0-8)
Z-4	SC	42/42	9-15-60	280	Starch	37.8	33.6	36.8	50.6	45.6	48.2 (8-0-8)
Z-5	SC	42/42	9-17-60	250	Starch	37.8	30.6	34.6	44.8	36.8	39.6 (8-0-8)
Z-6	B	42/42	9-21-60	255	Starch	32.4	27.6	30.7	45.6	34.6	39.4 (8-0-8)
Z-7	SC	42/42	9-23-60	285	Starch	37.8	33.6	35.3	43.6	40.8	42.3 (8-0-8)
Z-8	SC	42/42	9-26-60	270	Starch	43.8	33.6	38.0	45.6	41.0	43.3 (8-0-8)
Z-9	SC	42/42	9-27-60	290	Starch	37.8	31.2	35.1	51.8	44.4	46.6 (8-0-8)
Z-10	SC	42/42	10- 6-60	270	Starch	36.6	32.4	34.4	54.0	47.8	51.7 (8-0-8)
Z-11	B	42/42	10- 7-60	275	Starch	31.8	28.2	29.3	38.0	31.6	34.2 (8-0-8)
Z-12	SC	42/33	10-10-60	280	Starch	43.2	37.2	40.3	55.8	48.6	52.6 (8-0-8)
Z-13	SC	42/42	10-15-60	280	Starch	40.8	36.6	38.8	49.8	42.6	46.4 (8-0-8)
Z-14	SC	42/42	10-20-60	280	Starch	39.0	32.4	36.0	54.2	46.0	50.7 (8-0-8)
Z-15	B	42/42	10-21-60	280	Starch	34.8	31.2	33.4	40.4	33.8	38.0 (8-0-8)
Z-16	SC	42/42	10-27-60	280	Starch	42.0	35.4	37.5	54.6	47.0	50.5 (8-0-8)
Z-17	SC	42/42	10-28-60	270	Starch	39.0	34.2	37.2	57.4	53.2	54.4 (8-0-8)
Z-18	SC	42/42	11- 2-60	270	Starch	39.0	32.4	37.3	51.8	46.0	49.9 (8-0-8)
Z-19	SC	42/42	11- 4-60	280	Starch	43.8	34.8	38.7	55.0	49.8	51.8 (8-0-8)
Z-20	SC	42/42	11- 4-60	270	Starch	40.8	34.8	38.5	53.6	48.0	51.2 (8-0-8)
Z-21	SC	42/42	11- 9-60	240	Starch	30.6	24.6	27.0	36.0	32.0	34.4 (8-0-8)
Z-22	SC	42/42	11-10-60	285	Starch	41.4	35.4	38.0	54.8	50.6	52.9 (8-0-8)
Z-23	SC	42/42	11-14-60	270	Starch	37.2	30.6	34.5	47.8	39.4	43.9 (8-0-8)
Z-24	SC	42/42	11-17-60	250	Starch	41.4	35.4	38.8	57.0	49.6	53.2 (8-0-8)
Z-25	SC	42/42	11-18-60	280	Starch	38.4	33.0	35.8	56.4	48.6	51.4 (8-0-8)
Z-26	SC	42/42	11-22-60	270	Starch	39.0	31.2	34.6	52.6	50.0	51.3 (8-0-8)
Z-28	SC	42/42	11-28-60	250	Starch	37.2	25.8	32.4	45.0	34.0	40.0 (8-0-8)
Z-29	SC	42/42	12- 1-60	180	Starch	36.0	26.4	32.5	44.4	35.6	41.3 (8-0-8)
Z-30	SC	42/42	12- 4-60	250	Starch	41.4	36.6	28.3	50.8	45.0	48.4 (8-0-8)
Z-32	SC	42/42	12-16-60	210	Starch	36.0	32.4	34.4	55.2	46.6	51.0 (8-0-8)

TABLE A-26 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT Z
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
Z-33	SC	42/42	12-20-60	225	Starch	42.0	35.4	38.0	53.2	42.0	49.6 (8-0-8)
Z-34	SC	42/42	12-22-60	240	Starch	37.2	32.4	34.7	51.8	46.4	49.0 (8-0-8)
Z-35	SC	33/42	12-27-60	230	Starch	40.8	33.0	37.5	49.8	45.4	47.3 (8-0-8)
Z-36	SC	33/42	12-27-60	240	Starch	37.8	28.8	32.9	49.4	38.2	42.2 (8-0-8)
Z-37	SC	42/42	12-28-60	240	Starch	42.0	33.0	38.0	50.2	49.6	46.0 (8-0-8)
Z-38	SC	42/42	12-30-60	230	Starch	49.8	37.8	42.1	49.4	41.8	45.6 (8-0-8)
Z-39	SC	42/42	1- 4-61	230	Starch	42.6	33.6	38.2	51.8	47.4	49.1 (8-0-8)
Z-40	SC	42/42	1- 6-61	230	Starch	40.8	33.6	37.5	54.4	40.4	48.1 (8-0-8)
Z-41	SC	42/42	1- 6-61	250	Starch	34.8	30.0	33.4	41.0	35.6	37.9 (8-0-8)
Z-42	SC	42/42	1- 9-61	250	Starch	40.8	34.2	37.4	49.4	41.2	45.5 (8-0-8)
Z-43	SC	42/42	1-11-61	220	Starch	38.4	34.8	35.7	51.2	40.6	45.0 (8-0-8)
Z-44	SC	42/42	1-12-61	--	Starch	35.4	30.0	33.8	43.0	35.8	40.8 (8-0-8)
Z-45	SC	42/42	1-17-61	220	Starch	43.2	34.8	38.8	47.6	41.8	44.4 (8-0-8)
Z-46	SC	42/42	1-23-61	250	Starch	40.8	34.2	36.7	48.4	34.0	44.5 (8-0-8)
Z-47	SC	42/42	1-25-61	290	Starch	40.2	33.6	37.0	49.0	44.6	46.3 (8-0-8)
Z-48	SC	42/42	1-25-61	210	Starch	47.4	40.2	42.8	52.8	44.0	48.5 (8-0-8)
Z-49	SC	42/42	1-27-61	250	Starch	42.0	35.4	38.6	49.4	42.2	46.2 (8-0-8)
Z-50	SC	42/42	1-31-61	270	Starch	40.8	37.8	39.5	50.6	44.2	47.5 (8-0-8)
Z-51	SC	42/42	2- 1-61	250	Starch	40.2	36.6	38.2	53.8	42.2	48.8 (8-0-8)
Z-52	SC	42/42	2- 7-61	220	Starch	42.6	34.2	37.5	53.4	43.8	47.8 (8-0-8)
Z-53	SC	33/42	2-10-61	240	Starch	40.2	37.2	38.6	53.4	47.8	49.8 (8-0-8)
Z-54	SC	42/42	2-13-61	255	Starch	40.2	31.8	35.2	51.4	45.2	47.8 (8-0-8)
Z-55	SC	42/42	2-13-61	220	Starch	45.0	37.2	40.8	63.2	47.2	54.1 (8-0-8)

TABLE A-27

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT AA
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
AA-1	SC	42/42	9- 2-60	350	Starch	46.2	42.0	44.2	41.8	38.6	40.4 (8-0-8)
AA-2	SC	42/42	9-16-60	275	Starch	36.6	33.0	35.0	35.2	32.6	34.2 (8-0-8)
AA-3	SC	42/42	9-19-60	300	Starch	36.0	30.6	33.0	29.0	26.4	28.1 (8-0-8)
AA-4	SC	42/42	9-19-60	310	Starch	40.8	37.2	39.2	42.0	31.6	36.2 (8-0-8)
AA-5	SC	47/42	9-19-60	325	Starch	42.0	36.0	38.8	36.6	32.6	34.2 (8-0-8)
AA-6	SC	42/47	9-23-60	250	Starch	40.2	31.8	35.1	34.8	31.2	33.8 (8-0-8)
AA-7	SC	42/47	9-23-60	250	Starch	42.0	33.0	37.5	36.4	32.6	34.5 (8-0-8)
AA-8	SC	42/42	9-23-60	285	Starch	39.6	33.0	35.8	34.4	29.6	32.2 (8-0-8)
AA-9	SC	42/42	9-29-60	300	Starch	39.6	34.2	37.4	35.6	29.6	33.8 (8-0-8)
AA-10	SC	42/42	10- 5-60	325	Starch	39.0	35.4	37.2	37.8	26.4	32.7 (8-0-8)
AA-11	SC	42/42	10- 5-60	340	Starch	40.8	37.8	39.5	38.8	33.6	35.7 (8-0-8)
AA-14	SC	42/42	10- 7-60	225	Starch	40.2	33.0	36.4	36.0	33.6	34.5 (8-0-8)
AA-15	SC	42/42	10- 7-60	250	Starch	38.4	34.2	36.6	34.0	30.8	32.5 (8-0-8)
AA-16	SC	42/42	10- 7-60	325	Starch	40.2	36.6	38.7	35.0	31.6	33.0 (8-0-8)
AA-17	SC	42/42	10-19-60	320	Starch	43.2	35.4	39.1	41.0	33.4	36.8 (8-0-8)
AA-18	SC	42/42	10-19-60	260	Starch	42.0	32.4	38.4	39.8	33.8	36.3 (8-0-8)
AA-19	SC	47/42	11-16-60	250	Starch	41.4	35.4	37.7	37.4	31.6	33.7 (8-0-8)
AA-20	SC	42/42	11-25-60	250	Starch	42.0	36.6	39.2	36.6	31.2	34.2 (8-0-8)
AA-21	SC	42/42	11-29-60	300	Starch	40.2	34.8	37.1	34.6	30.8	33.3 (8-0-8)
AA-22	SC	42/42	11-29-60	300	Starch	41.4	37.8	39.1	38.4	33.4	36.5 (8-0-8)
AA-23	SC	42/42	1-11-61	250	Starch	43.2	38.4	40.5	35.6	30.8	33.4 (8-0-8)
AA-24	SC	42/42	1-11-61	260	Starch	40.8	33.0	36.4	35.8	30.0	33.0 (8-0-8)
AA-25	SC	42/42	1-11-61	250	Starch	40.2	34.8	36.8	35.2	30.2	33.1 (8-0-8)
AA-26	SC	42/42	1-13-61	250	Starch	40.8	35.4	37.5	35.6	31.2	33.7 (8-0-8)
AA-27	SC	42/42	1-19-61	250	Starch	40.8	34.2	37.3	38.2	29.0	33.6 (8-0-8)
AA-28	SC	42/42	12- 8-60	300	Starch	40.2	33.0	36.0	35.4	30.0	33.2 (8-0-8)
AA-29	SC	42/42	1-19-61	250	Starch	42.0	37.8	40.7	37.4	35.8	36.4 (8-0-8)
AA-30	SC	47/47	1-31-61	275	Starch	39.0	35.4	37.8	36.8	32.0	34.9 (8-0-8)
AA-31	SC	42/47	2- 6-61	275	Starch	43.2	35.4	39.2	38.0	32.8	35.1 (8-0-8)
AA-32	SC	42/47	2- 6-61	280	Starch	42.6	37.8	39.8	38.2	33.4	36.3 (8-0-8)

TABLE A-27 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT AA
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
AA-33	SC	42/47	2- 6-61	280	Starch	37.8	32.4	34.6	35.4	30.4	32.9 (8-0-8)
AA-34	SC	42/47	2- 6-61	260	Starch	39.6	37.8	38.5	40.4	33.2	37.4 (8-0-8)
AA-35	SC	42/47	2- 6-61	280	Starch	39.6	35.4	36.8	36.4	33.2	35.2 (8-0-8)
AA-36	SC	42/47	2- 6-61	280	Starch	39.0	34.2	36.5	37.2	32.8	34.1 (8-0-8)
AA-37	SC	42/47	2- 8-61	265	Starch	44.4	37.2	40.2	38.6	31.8	35.5 (8-0-8)
AA-38	SC	42/42	2- 8-61	200	Starch	40.2	33.6	36.8	38.4	31.8	35.8 (8-0-8)
AA-39	SC	42/42	2- 8-61	285	Ketac	42.6	39.0	40.6	39.2	35.6	36.7 (8-0-8)
AA-40	SC	42/42	2- 8-61	300	Starch	40.2	36.0	37.6	38.8	31.4	35.9 (8-0-8)
AA-41	SC	42/42	2- 8-61	300	Starch	41.4	37.2	39.1	40.4	33.0	37.0 (8-0-8)
AA-42	SC	42/47	2- 8-61	275	Starch	40.2	34.2	37.4	38.6	33.6	35.3 (8-0-8)
AA-43	SC	42/47	2- 8-61	300	Starch	41.4	32.4	37.7	40.6	34.6	37.7 (8-0-8)
AA-44	SC	42/47	2- 8-61	300	Starch	41.4	37.8	40.0	38.6	34.6	36.4 (8-0-8)
AA-45	SC	42/47	2- 8-61	300	Starch	40.2	33.6	36.5	36.6	31.8	33.7 (8-0-8)
AA-46	SC	42/47	2- 8-61	300	Starch	39.0	35.4	37.0	36.8	30.6	33.9 (8-0-8)
AA-47	SC	42/47	2- 8-61	300	Starch	43.2	33.6	38.2	35.6	33.4	34.6 (8-0-8)
AA-48	SC	42/47	2- 8-61	300	Starch	40.2	34.8	37.9	39.0	29.0	34.5 (8-0-8)
AA-49	SC	42/47	2- 8-61	300	Starch	40.2	34.2	36.4	36.4	29.8	33.4 (8-0-8)
AA-50	SC	42/42	2- 9-61	255	Starch	40.2	36.0	38.8	38.0	31.2	35.7 (8-0-8)
AA-51	SC	42/47	2- 9-61	300	Starch	41.4	36.0	38.8	36.4	32.4	34.8 (8-0-8)
AA-52	SC	42/47	2- 9-61	250	Starch	41.4	36.6	39.1	38.6	33.4	36.0 (8-0-8)
AA-53	SC	42/47	2- 9-61	300	Starch	46.2	37.2	41.6	39.8	33.4	36.1 (8-0-8)
AA-54	SC	42/47	2- 9-61	300	Starch	40.8	37.2	39.0	38.0	30.8	35.2 (8-0-8)

TABLE A-28

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT BB
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
BB-1	SC	38/38	9- 7-60	250	Starch	40.8	33.0	36.6	38.6	34.4	36.2 (8-0-8)
BB-2	SC	42/42	9-13-60	300	Starch	37.8	38.8	36.8	39.0	31.4	35.2 (8-0-8)
BB-3	SC	42/42	9-15-60	300	Starch	36.6	32.4	34.9	36.8	31.6	34.4 (8-0-8)
BB-4	SC	42/42	9-20-60	275	Starch	40.8	36.0	38.0	37.4	32.8	35.2 (8-0-8)
BB-5	SC	42/42	9-27-60	300	Starch	39.6	34.8	37.7	36.0	33.2	34.5 (8-0-8)
BB-6	SC	38/38	9-28-60	275	Starch	43.8	38.4	41.4	40.2	32.6	36.2 (8-0-8)
BB-7	SC	42/42	9-29-60	275	Starch	42.6	38.4	39.9	39.4	33.6	37.5 (8-0-8)
BB-8	SC	42/42	10- 5-60	275	Starch	42.0	36.0	38.6	35.8	31.0	33.4 (8-0-8)
BB-9	SC	38/38	10- 6-60	250	Starch	38.4	33.0	35.4	34.6	30.2	32.6 (8-0-8)
BB-10	SC	38/38	10- 6-60	250	Starch	39.6	32.4	35.8	36.6	33.6	35.0 (8-0-8)
BB-11	SC	42/42	10- 6-60	325	Starch	42.0	36.6	38.9	36.2	33.6	34.6 (8-0-8)
BB-12	SC	33/42	10- 8-60	275	Starch	42.0	36.0	39.4	36.8	32.8	35.0 (8-0-8)
BB-13	SC	42/42	10-10-60	275	Starch	40.8	37.2	38.6	37.2	32.0	34.5 (8-0-8)
BB-14	SC	42/42	10-11-60	340	Starch	40.2	37.2	38.6	37.6	34.2	36.0 (8-0-8)
BB-15	SC	33/42	10-19-60	275	Starch	40.8	35.4	37.5	36.4	32.0	34.4 (8-0-8)
BB-16	SC	33/42	10-24-60	275	Starch	42.0	34.2	37.4	38.2	33.0	35.1 (8-0-8)
BB-17	SC	38/38	10-27-60	275	Starch	41.4	35.4	38.9	38.4	34.8	36.0 (8-0-8)
BB-18	SC	42/42	10-27-60	350	Starch	42.6	40.2	41.0	38.4	34.2	36.7 (8-0-8)
BB-19	SC	42/42	11- 7-60	250	Starch	39.6	32.4	36.8	37.6	32.8	34.9 (8-0-8)
BB-20	SC	42/42	11- 7-60	340	Starch	40.8	32.4	37.9	36.4	32.2	33.9 (8-0-8)
BB-21	SC	38/38	11-11-60	250	Starch	42.6	34.8	37.5	38.0	34.0	35.9 (8-0-8)
BB-22	SC	42/42	11-14-60	325	Starch	49.8	41.4	44.2	38.4	34.6	36.2 (8-0-8)
BB-23	SC	42/42	11-15-60	300	Starch	43.2	37.8	41.0	36.2	31.6	33.8 (8-0-8)
BB-24	SC	38/38	11-16-60	250	Starch	40.8	35.4	38.6	38.4	34.4	35.8 (8-0-8)
BB-25	SC	42/42	11-18-60	275	Starch	40.2	34.8	37.3	40.6	35.2	37.1 (8-0-8)
BB-26	SC	38/38	11-23-60	275	Starch	36.6	31.2	34.4	35.2	32.0	33.7 (8-0-8)
BB-27	SC	42/42	11-28-60	300	Starch	36.6	30.6	32.9	34.4	31.6	32.8 (8-0-8)
BB-28	SC	42/42	11-29-60	225	Starch	38.4	33.6	36.2	38.4	31.6	34.6 (8-0-8)
BB-29	SC	42/42	12- 7-60	250	Starch	41.4	36.6	39.2	36.6	32.4	34.4 (8-0-8)
BB-30	SC	42/42	12-12-60	325	Starch	40.2	32.4	37.3	35.0	31.4	32.9 (8-0-8)

TABLE A-28 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT BB
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
BB-31	SC	42/42	12-12-60	325	Starch	37.8	33.0	35.3	36.8	33.6	35.0 (8-0-8)
BB-32	SC	42/42	12-12-60	325	Starch	36.6	33.0	35.2	36.6	32.2	34.8 (8-0-8)
BB-33	SC	38/38	12-13-60	300	Starch	34.8	31.2	33.3	32.4	30.0	31.2 (8-0-8)
BB-34	SC	42/42	12-16-60	275	Starch	39.6	35.4	37.6	37.4	29.0	34.3 (8-0-8)
BB-35	SC	42/42	12-16-60	275	Starch	45.0	36.0	39.5	36.4	31.2	34.1 (8-0-8)
BB-36	SC	42/42	12-19-60	300	Starch	40.2	36.0	38.0	35.8	31.4	33.7 (8-0-8)
BB-37	SC	42/42	12-19-60	350	Starch	40.2	33.6	36.9	36.4	32.0	34.0 (8-0-8)
BB-38	SC	33/42	1- 2-61	275	Starch	39.6	34.2	37.4	38.0	32.6	35.2 (8-0-8)
BB-39	SC	38/38	1- 3-61	275	Starch	40.8	32.4	36.8	38.2	34.6	35.9 (8-0-8)
BB-40	SC	42/42	1- 9-61	300	Starch	40.2	33.6	36.4	38.6	34.6	36.7 (8-0-8)
BB-41	SC	42/42	1- 9-61	300	Starch	39.0	33.6	36.1	34.8	31.6	33.2 (8-0-8)
BB-42	SC	42/42	1-12-61	275	Starch	42.0	37.2	39.2	37.0	34.4	35.5 (8-0-8)
BB-43	SC	42/42	1-24-61	275	Starch	41.4	34.2	38.0	36.4	33.4	34.6 (8-0-8)
BB-43A	SC	42/42	1-27-61	300	Starch	43.2	36.0	39.0	39.2	32.6	35.4 (8-0-8)
BB-44	SC	42/42	1-31-61	275	Starch	41.4	34.8	38.9	35.8	32.0	33.2 (8-0-8)
BB-45	SC	42/42	1-31-61	275	Starch	42.0	37.2	39.4	37.2	31.8	34.1 (8-0-8)
BB-46	SC	38/38	2- 1-61	275	Starch	42.0	37.8	39.6	36.8	32.6	34.2 (8-0-8)
BB-47	SC	38/38	2- 1-61	275	Starch	45.0	36.0	40.4	40.2	33.6	36.3 (8-0-8)
BB-48	SC	38/38	2-10-61	275	Starch	40.2	35.4	37.4	36.0	31.4	34.3 (8-0-8)
BB-49	SC	38/38	2-10-61	275	Starch	42.0	34.8	37.8	39.2	32.0	34.7 (8-0-8)
BB-50	SC	42/42	2-13-61	350	Starch	42.0	34.2	38.0	36.6	33.6	35.0 (8-0-8)
BB-51	SC	33/42	2-16-61	275	Starch	42.0	34.2	38.2	36.8	32.2	34.3 (8-0-8)
BB-52	SC	33/42	2-16-61	275	Starch	42.0	34.8	38.4	38.6	31.6	35.5 (8-0-8)
BB-53	SC	42/42	2-17-61	350	Starch	40.2	36.6	38.2	37.0	32.4	34.4 (8-0-8)
BB-54	SC	42/42	2-17-61	350	Starch	37.2	33.6	35.5	36.8	31.6	34.6 (8-0-8)

TABLE A-29

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT CC
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
CC-1	SC	42/42	9-12-60	300	Starch	40.8	33.6	37.9	34.2	29.0	32.1 (8-0-8)
CC-2	SC	42/42	9-12-60	300	Starch	44.4	36.0	40.2	36.6	34.0	35.2 (8-0-8)
CC-3	SC	42/42	9-16-60	250	Starch	45.6	36.0	39.7	36.6	31.4	33.7 (8-0-8)
CC-4	SC	42/42	9-23-60	275	Starch	40.8	32.4	36.8	34.6	31.4	32.5 (8-0-8)
CC-5	SC	42/42	10- 3-60	260	Starch	41.4	36.0	39.2	34.4	31.0	32.8 (8-0-8)
CC-6	SC	42/42	10- 4-60	250	Starch	39.6	34.2	36.6	33.2	30.2	31.8 (8-0-8)
CC-7	SC	42/42	10- 6-60	280	Starch	45.0	36.0	40.0	33.4	29.6	31.9 (8-0-8)
CC-8	SC	42/42	10-10-60	300	Starch	43.2	36.6	39.2	35.0	32.8	33.8 (8-0-8)
CC-9	SC	42/42	10-13-60	275	Starch	40.2	33.0	36.8	32.2	28.2	31.0 (8-0-8)
CC-10	SC	42/42	10-20-60	275	Starch	38.4	35.4	37.0	32.0	28.0	30.8 (8-0-8)
CC-11	SC	42/42	10-18-60	275	Starch	38.4	33.6	37.2	38.2	33.6	34.8 (8-0-8)
CC-12	SC	42/42	10-17-60	260	Starch	43.2	37.2	40.0	37.4	32.6	35.2 (8-0-8)
CC-13	SC	42/42	10-25-60	300	Starch	40.8	36.0	37.6	36.2	30.2	34.1 (8-0-8)
CC-14	SC	42/42	10-25-60	275	Starch	42.6	35.4	39.4	40.4	33.2	37.1 (8-0-8)
CC-15	SC	42/42	10-26-60	275	Starch	40.8	33.0	37.2	35.6	33.6	34.3 (8-0-8)
CC-16	SC	42/42	10-27-60	250	Starch	40.8	35.4	37.7	36.8	32.6	34.5 (8-0-8)
CC-17	SC	42/42	10-27-60	250	Starch	44.4	39.0	41.5	40.6	33.8	36.9 (8-0-8)
CC-18	SC	42/42	10-28-60	280	Starch	40.8	33.0	37.5	36.2	31.6	33.7 (8-0-8)
CC-19	SC	42/42	11- 1-60	280	Starch	37.8	31.2	35.3	34.4	31.2	32.5 (8-0-8)
CC-20	SC	42/42	11- 2-60	275	Starch	37.8	33.6	35.8	33.2	27.4	31.3 (8-0-8)
CC-21	SC	42/42	11- 3-60	275	Starch	42.0	36.0	39.4	36.8	32.8	35.4 (8-0-8)
CC-22	SC	42/42	11- 7-60	275	Starch	40.8	34.8	36.8	35.4	30.6	33.8 (8-0-8)
CC-23	SC	42/42	11-10-60	300	Starch	38.4	33.6	35.8	34.8	28.8	32.0 (8-0-8)
CC-24	SC	42/42	11-15-60	275	Starch	39.0	34.2	36.5	35.8	33.0	33.7 (8-0-8)
CC-25	SC	42/42	11-16-60	250	Starch	37.2	33.0	35.5	32.2	29.8	31.3 (8-0-8)
CC-26	SC	42/42	11-16-60	275	Starch	36.0	32.4	34.9	34.0	29.6	32.2 (8-0-8)
CC-27	SC	42/42	11-17-60	275	Starch	37.8	32.4	35.1	36.4	29.4	33.2 (8-0-8)
CC-28	SC	42/42	11-17-60	275	Starch	39.6	34.2	36.4	35.8	32.6	34.0 (8-0-8)
CC-29	SC	42/42	11-30-60	275	Starch	40.8	34.2	38.0	33.8	32.6	33.3 (8-0-8)
CC-30	SC	42/42	12- 7-60	275	Starch	39.6	32.4	35.0	34.4	31.4	32.7 (8-0-8)

TABLE A-29 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT CC
(A-Flute)Page A-54
Report One

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
CC-31	SC	42/42	12- 6-60	275	Starch	37.2	32.4	35.1	34.6	31.2	32.8	(8-0-8)
CC-32	SC	42/42	12- 7-60	275	Starch	40.2	33.6	36.8	36.2	32.8	34.6	(8-0-8)
CC-33	SC	42/42	12- 8-60	275	Starch	40.2	37.2	38.7	36.8	32.0	34.6	(8-0-8)
CC-34	SC	42/42	12-22-60	250	Starch	39.0	35.4	37.6	36.2	30.2	33.7	(8-0-8)
CC-35	SC	42/42	12-27-60	275	Starch	42.6	37.2	39.7	35.4	32.0	33.8	(8-0-8)
CC-36	SC	42/42	12-27-60	275	Starch	41.4	34.8	37.6	34.0	26.2	31.3	(8-0-8)
CC-37	SC	42/42	1- 4-61	250	Starch	40.2	34.8	37.9	36.4	31.4	33.5	(8-0-8)
CC-38	SC	42/42	1- 5-61	275	Starch	42.0	36.6	38.3	37.0	34.0	35.8	(8-0-8)
CC-39	SC	42/42	1-10-61	275	Starch	40.2	37.2	38.6	35.4	29.2	32.3	(8-0-8)
CC-40	SC	42/42	1-16-61	275	Starch	40.8	36.6	38.8	33.6	30.6	32.3	(8-0-8)
CC-41	SC	42/42	1-24-61	275	Starch	42.0	36.0	38.6	34.2	31.6	32.8	(8-0-8)
CC-42	SC	42/42	1-27-61	275	Starch	39.0	34.2	37.0	34.4	28.4	32.2	(8-0-8)
CC-43	SC	42/42	2- 1-61	275	Starch	39.0	34.2	37.2	33.2	30.6	32.0	(8-0-8)
CC-44	SC	42/42	2- 2-61	275	Starch	42.0	36.0	38.6	36.0	31.8	33.7	(8-0-8)
CC-45	SC	42/42	2- 4-61	275	Starch	40.2	36.0	38.2	34.4	31.0	32.7	(8-0-8)
CC-46	SC	42/42	2- 6-61	275	Starch	43.6	36.6	39.4	35.8	32.2	34.4	(8-0-8)
CC-47	SC	42/42	2- 7-61	250	Starch	37.8	33.0	35.8	33.4	29.8	32.3	(8-0-8)
CC-48	SC	42/42	2-13-61	275	Starch	42.6	37.8	40.5	34.4	29.2	32.0	(8-0-8)
CC-49	SC	42/42	2-14-61	275	Starch	40.2	37.2	38.8	35.2	31.6	32.4	(8-0-8)
CC-50	SC	42/42	2-15-61	250	Starch	41.4	35.4	38.5	34.6	31.2	33.4	(8-0-8)
CC-51	SC	42/42	2-16-61	275	Starch	37.2	33.0	35.6	33.6	28.6	31.2	(8-0-8)
CC-52	SC	42/42	2-24-61	275	Starch	39.0	34.2	36.4	33.2	30.4	31.8	(8-0-8)
CC-53	SC	42/42	2-27-61	250	Starch	39.0	35.4	37.0	33.6	29.6	31.6	(8-0-8)
CC-54	SC	42/42	2-28-61	250	Starch	43.2	36.0	39.1	39.2	33.4	35.2	(8-0-8)

Fourdrinier Kraft Board Institute, Inc.
Project 1108-285

TABLE A-30

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT DD
(B-Flute)

Fourdrinier Kraft Board Institute, Inc.
Project 1108-285

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Report One

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
DD-1	SC	42/47	9- 6-60	260	Starch	37.2	32.4	34.6	52.0	47.4	49.4 (8-0-8)
DD-2	SC	42/47	9-21-60	325	Starch	40.8	36.0	38.2	57.6	41.4	50.4 (9-1-8)
DD-3	SC	42/42	9-26-60	335	Starch	36.0	31.8	33.0	56.4	45.0	52.5 (12-5-7)
DD-4	SC	42/42	9-26-60	335	Starch	38.4	36.0	37.1	60.0	48.6	54.6 (8-0-8)
DD-5	SC	42/42	9-26-60	350	Starch	37.2	31.8	34.3	51.8	47.4	50.4 (10-2-8)
DD-6	SC	42/42	9-26-60	350	Starch	36.6	31.2	34.6	61.2	48.4	54.8 (10-2-8)
DD-7	SC	42/42	9-26-60	335	Starch	37.8	32.4	35.0	58.8	51.6	54.9 (12-4-8)
DD-8	SC	42/42	9-26-60	315	Starch	38.4	33.6	35.2	59.0	50.6	55.3 (14-8-6)
DD-9	SC	42/42	9-27-60	275	Starch	39.6	36.0	37.2	60.2	51.6	56.1 (9-2-7)
DD-10	SC	33/42	10- 6-60	350	Starch	39.6	34.2	36.8	57.2	48.2	53.1 (8-0-8)
DD-11	SC	32/42	10- 6-60	350	Starch	39.6	34.2	37.0	60.8	45.4	53.2 (8-0-8)
DD-12	SC	33/42	10- 6-60	350	Starch	37.2	33.0	34.8	55.8	48.8	50.5 (9-1-8)
DD-13	SC	33/42	10- 6-60	350	Starch	41.4	36.0	38.3	58.6	49.6	55.0 (8-0-8)
DD-14	SC	33/42	10- 6-60	350	Starch	37.8	31.8	35.8	58.8	51.2	54.6 (8-0-8)
DD-15	SC	33/42	10- 6-60	250	Starch	38.4	32.4	35.6	57.4	44.0	51.8 (8-0-8)
DD-16	SC	42/33	10-28-60	300	Starch	41.4	33.6	36.9	59.4	42.0	50.8 (8-0-8)
DD-17	SC	42/33	10-28-60	300	Starch	39.6	31.8	36.0	55.8	41.4	48.7 (8-0-8)
DD-18	SC	42/33	10-28-60	300	Starch	38.4	34.2	36.3	60.4	45.0	51.6 (8-0-8)
DD-19	SC	42/33	11- 8-60	300	Starch	38.4	34.2	36.7	55.4	42.4	47.8 (9-1-8)
DD-20	SC	42/33	11- 8-60	285	Starch	40.2	33.0	36.8	59.4	47.2	52.9 (11-4-7)
DD-21	SC	42/33	11-14-60	250	Starch	34.2	28.8	31.1	44.6	39.4	42.2 (10-2-8)
DD-22	SC	33/42	11-23-60	275	Starch	39.0	36.0	37.8	54.4	46.0	50.6 (8-0-8)
DD-23	SC	42/42	12-12-60	250	Starch	40.2	31.2	36.0	47.6	33.0	42.0 (8-0-8)
DD-24	SC	42/42	12-12-60	250	Starch	39.0	33.6	36.4	50.6	39.2	42.8 (8-0-8)
DD-25	SC	42/42	12-12-60	250	Starch	40.8	32.4	36.8	47.4	34.0	42.2 (8-0-8)
DD-26	SC	42/42	12-12-60	250	Starch	37.8	33.0	35.5	47.4	34.8	42.2 (8-0-8)
DD-27	SC	33/42	12-19-60	250	Starch	36.6	30.0	34.1	54.0	43.0	47.1 (8-0-8)
DD-28	SC	33/42	12-19-60	260	Starch	36.6	32.4	34.2	54.4	34.4	46.0 (8-0-8)
DD-29	SC	33/42	12-19-60	260	Starch	40.2	33.0	36.8	52.2	34.4	43.8 (8-0-8)
DD-30	SC	33/42	12-13-60	260	Starch	39.6	36.0	37.6	50.8	37.6	43.4 (8-0-8)

TABLE A-30 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT DD
(B-Flute)

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Report One

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
DD-31	SC	42/42	12-20-60	275	Starch	43.2	34.8	37.7	50.6	32.4	43.4	(8-0-8)
DD-32	SC	42/42	12-22-60	260	Starch	37.8	33.6	35.4	53.2	42.4	49.2	(12-6-6)
DD-33	SC	42/42	1- 3-61	250	Starch	40.8	35.4	37.6	61.4	52.2	54.3	(9-3-6)
DD-34	SC	42/42	1- 3-61	250	Starch	38.4	34.2	37.0	59.6	52.2	56.2	(12-7-5)
DD-35 ^a	SC	42/42	1- 3-61	250	Starch	40.8	36.0	38.7	59.2	55.4	55.8	(14-11-3)
DD-36	SC	42/42	1- 3-61	250	Starch	45.6	37.8	41.8	57.8	38.0	46.8	(9-1-8)
DD-37	SC	33/42	1-14-61	300	Starch	37.8	34.8	35.7	59.6	46.0	52.8	(9-1-8)
DD-38	SC	33/42	1-14-61	250	Starch	39.6	33.0	36.1	56.2	38.8	50.1	(11-3-8)
DD-39	SC	42/42	1-18-61	250	Starch	40.2	34.8	37.8	50.4	29.4	39.4	(8-0-8)
DD-40	SC	42/42	1-18-61	250	Starch	39.6	36.0	38.0	49.2	34.0	42.8	(8-0-8)
DD-41	SC	33/42	1-18-61	250	Starch	45.0	39.0	41.6	53.8	56.4	46.7	(8-0-8)
DD-42	SC	33/42	1-18-61	250	Starch	41.4	35.4	38.6	56.0	41.8	49.9	(11-3-8)
DD-43	SC	33/42	1-18-61	250	Starch	43.2	37.2	39.5	49.8	35.6	42.8	(10-2-8)
DD-44	SC	38/42	1-18-61	250	Starch	43.8	39.0	41.2	59.8	44.0	51.7	(8-0-8)
DD-45	SC	33/42	1-19-61	275	Starch	39.0	33.0	36.1	51.6	36.4	45.3	(8-0-8)
DD-46	SC	42/47	1-19-61	250	Starch	45.6	38.4	41.0	56.0	42.0	49.9	(8-0-8)
DD-47	SC	42/42	2- 2-61	300	Starch	39.6	33.6	36.2	52.0	41.0	45.7	(9-1-8)
DD-48	SC	42/47	2- 2-61	300	Starch	40.2	33.6	37.7	54.8	46.6	50.9	(12-5-7)
DD-49	SC	42/47	2- 2-61	325	Starch	42.0	31.8	37.1	55.0	44.2	50.8	(11-3-8)
DD-50	SC	42/47	2- 2-61	350	Starch	40.2	32.4	36.4	53.4	43.0	48.0	(11-4-7)
DD-51	SC	42/42	2- 2-61	300	Starch	38.4	31.8	36.1	57.8	50.0	53.1	(10-3-7)
DD-52	SC	42/47	2-10-61	300	Starch	41.4	36.6	39.5	56.2	43.2	49.9	(8-0-8)
DD-53	SC	33/42	2-16-61	300	Starch	40.8	36.6	38.2	57.0	48.6	54.0	(8-0-8)
DD-54	SC	33/42	2-16-61	300	Starch	40.2	32.4	35.8	54.0	48.4	51.6	(8-0-8)

^a This sample was not used because of excessive "rolls."

Fourdrinier Kraft Board Institute, Inc.
Project 1108-285

TABLE A-31

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT EE
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
EE-1	SC	33/42	9-14-60	325	Starch	41.4	36.0	38.5	49.8	45.6	48.0	(10-2-8)
EE-2	SC	42/42	9-22-60	350	Starch	42.0	35.4	38.2	58.0	44.4	50.8	(10-2-8)
EE-3	SC	42/42	9-27-60	350	Starch	42.0	36.6	38.9	61.4	50.6	56.1	(9-2-7)
EE-4	SC	38/38	9-28-60	325	Starch	44.4	38.4	40.9	67.6	59.4	61.6	(12-8-4)
EE-5	SC	42/42	9-29-60	275	Starch	37.2	34.2	35.9	53.2	37.0	47.8	(10-2-8)
EE-6	SC	42/42	10- 3-60	300	Starch	40.8	35.4	37.8	66.2	54.8	60.9	(15-6-8)
EE-7	SC	42/42	10- 4-60	250	Starch	43.8	39.6	41.8	65.0	54.8	60.5	(10-2-8)
EE-8	SC	42/42	10- 4-60	325	Starch	42.0	38.4	40.4	67.0	54.8	61.7	(11-3-8)
EE-9	SC	42/47	10- 6-60	340	Starch	39.6	31.8	36.6	63.6	51.6	57.9	(11-3-8)
EE-10	SC	42/42	10- 7-60	340	Starch	43.2	36.0	39.0	53.4	48.0	51.4	(8-0-8)
EE-11	SC	42/42	10-10-60	340	Starch	39.0	35.4	37.0	54.2	36.6	47.2	(9-1-8)
EE-12	SC	42/42	10-17-60	300	Starch	41.4	35.4	38.4	52.0	44.2	47.6	(9-1-8)
EE-13	SC	42/42	10-22-60	350	Starch	43.8	35.4	37.3	50.0	44.4	46.6	(8-0-8)
EE-14	SC	42/42	10-27-60	300	Starch	41.4	36.0	39.5	54.2	46.2	51.0	(10-2-8)
EE-15 ^a	SC	42/42	10-27-60	340	Starch	43.2	38.4	41.0	65.0	61.6	62.9	(14-11-3)
EE-16	SC	33/42	10-28-60	300	Starch	41.4	38.4	40.0	50.0	44.2	47.6	(8-0-8)
EE-17	SC	42/42	10-31-60	300	Starch	40.8	37.8	38.8	58.6	50.6	55.6	(8-0-8)
EE-18	SC	33/38	10-31-60	350	Starch	40.8	34.2	37.6	64.4	49.2	57.6	(8-0-8)
EE-19	SC	42/42	11- 8-60	325	Starch	42.0	34.8	38.8	68.0	56.4	62.5	(9-1-8)
EE-20	SC	38/38	11-11-60	350	Starch	38.4	33.0	35.8	55.0	44.6	49.5	(9-1-8)
EE-21	SC	38/38	11-11-60	350	Starch	38.4	34.2	36.1	60.4	45.0	53.5	(11-4-7)
EE-22	SC	42/42	11-16-60	350	Starch	38.4	31.8	36.2	59.8	45.0	53.3	(8-0-8)
EE-23	SC	38/38	11-29-60	350	Starch	39.6	34.8	37.6	53.0	46.2	49.6	(8-0-8)
EE-24	SC	47/47	12- 1-60	340	Starch	42.6	37.8	40.3	56.4	49.0	53.1	(8-0-8)
EE-25	SC	38/38	12- 2-60	350	Starch	39.6	34.2	36.8	57.8	48.4	53.9	(8-0-8)
EE-26	SC	38/38	12- 2-60	350	Starch	40.2	33.6	35.7	61.6	44.0	53.9	(8-0-8)
EE-27	SC	33/42	12- 2-60	350	Starch	42.0	34.8	38.3	53.6	47.6	50.5	(8-0-8)
EE-28	SC	38/38	12- 6-60	350	Starch	39.6	33.6	36.5	62.2	45.4	56.8	(8-0-8)
EE-29	SC	38/38	12- 6-60	350	Starch	39.0	33.6	36.5	63.8	58.4	60.8	(8-0-8)
EE-30	SC	42/42	12- 7-60	300	Starch	40.2	34.8	36.7	61.6	50.8	55.3	(8-0-8)

^a These samples were not used because of excessive rolls.

TABLE A-31 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT EE
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
EE-31	SC	42/42	12-13-60	350	Starch	40.8	35.4	38.2	68.4	50.0	57.0 (8-0-8)
EE-32	SC	42/42	12-13-60	350	Starch	43.2	34.8	37.9	56.6	47.0	52.6 (8-0-8)
EE-33	SC	42/42	12-16-60	350	Starch	43.2	34.8	37.2	61.2	40.8	53.3 (8-0-8)
EE-34	SC	42/42	12-29-60	350	Starch	39.6	33.0	37.4	57.8	48.4	52.7 (14-9-5)
EE-35	SC	38/38	12-30-60	350	Starch	43.2	35.4	40.1	61.4	51.0	55.8 (16-16-8) ^a
EE-36	SC	42/47	1- 2-61	300	Starch	37.2	32.4	35.0	56.4	25.0	44.6 (11-3-8)
EE-37	SC	42/42	1- 5-61	300	Starch	39.0	34.8	37.3	48.4	42.2	46.4 (8-0-8)
EE-38 ^b	SC	42/42	1- 6-61	350	Starch	39.6	32.4	36.0	56.8	54.8	55.8 (16-14-2)
EE-39	SC	42/42	1- 6-61	350	Starch	42.0	37.8	39.8	68.0	58.8	62.0 (8-0-8)
EE-40	SC	42/42	1- 9-61	300	Starch	42.0	34.8	38.0	52.0	44.0	48.8 (8-0-8)
EE-41	SC	42/42	1- 9-61	300	Starch	39.6	34.8	36.7	53.2	42.0	49.7 (8-0-8)
EE-42	SC	33/33	1- 9-61	300	Starch	42.0	34.8	37.5	68.6	60.8	65.1 (9-1-8)
EE-43	SC	42/42	1- 9-61	350	Starch	42.6	33.0	37.6	68.8	45.8	56.7 (13-5-8)
EE-44	SC	42/42	1-27-61	350	Starch	42.0	31.8	37.9	65.8	57.4	61.6 (10-2-8)
EE-45 ^b	SC	42/42	2- 1-61	350	Starch	43.8	37.8	40.6	63.0	63.0	63.0 (16-15-1)
EE-46	SC	42/42	2- 1-61	350	Starch	37.8	31.8	35.5	59.6	50.8	54.6 (14-10-4)
EE-47 ^b	SC	33/42	2-14-61	300	Starch	42.6	34.2	37.7	62.0	52.4	57.3 (12-9-3)
EE-48	SC	42/42	2-17-61	300	Starch	42.0	37.8	39.1	66.0	57.6	61.7 (11-3-8)
EE-49	SC	33/42	2-21-61	300	Starch	45.0	36.6	40.5	67.0	52.6	58.0 (8-0-8)
EE-50	SC	42/42	2-27-61	350	Starch	45.0	36.0	39.6	55.2	39.8	46.7 (8-0-8)
EE-51	SC	38/38	2-27-61	350	Starch	40.8	35.4	37.5	47.6	38.4	41.8 (8-0-8)
EE-52	SC	42/42	3- 2-61	350	Starch	41.4	34.2	37.5	67.6	54.4	61.9 (9-1-8)
EE-53	SC	42/42	3- 6-61	350	Starch	45.0	39.0	41.3	53.2	47.4	49.6 (8-0-8)
EE-54	SC	38/47	3- 7-61	350	Starch	42.0	34.8	38.1	50.0	45.2	47.9 (8-0-8)

^aBecause all specimens rolled, the reported value is average of last eight recheck specimens.

^bThese samples were not used because of excessive rolls.

TABLE A-32

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT FF
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
FF-1	SC	33/42	9- 8-60	280	Starch	40.8	34.8	36.8	51.2	45.8	48.3	(8-0-8)
FF-2	SC	42/42	9-19-60	225	Starch	42.6	37.8	40.4	52.4	47.4	49.4	(8-0-8)
FF-3	SC	42/42	9-21-60	250	Starch	40.8	37.2	38.9	50.6	47.8	49.8	(8-0-8)
FF-4	SC	42/42	9-27-60	260	Starch	42.6	37.8	40.4	53.8	43.8	48.2	(8-0-8)
FF-5	SC	42/42	10-14-60	250	Starch	39.6	36.0	38.1	48.6	40.4	45.5	(8-0-8)
FF-6	SC	42/33	10-21-60	250	Starch	40.8	34.8	37.9	51.0	43.6	48.0	(8-0-8)
FF-7	SC	42/42	10-24-60	250	Starch	41.4	35.4	37.3	52.4	47.0	49.7	(11-3-8)
FF-8	SC	42/42	10-25-60	250	Starch	41.4	34.8	38.7	60.8	50.4	56.0	(10-2-8)
FF-9	SC	42/42	10-25-60	250	Starch	42.0	39.6	40.7	50.9	47.0	49.1	(16-8-8)
FF-10	SC	33/42	10-26-60	250	Starch	45.0	38.4	40.9	59.8	54.4	57.6	(8-0-8)
FF-11	SC	33/42	10-27-60	250	Starch	45.6	39.6	41.9	55.2	43.4	49.7	(8-0-8)
FF-12	SC	33/42	10-28-60	250	Starch	38.4	36.0	37.5	56.0	45.2	50.8	(8-0-8)
FF-13	SC	33/42	10-28-60	250	Starch	38.4	32.4	36.4	52.0	47.6	49.6	(8-0-8)
FF-14	SC	33/42	11- 1-60	275	Starch	40.2	32.4	35.8	49.4	46.0	47.5	(8-0-8)
FF-15	SC	33/42	11- 2-60	250	Starch	38.4	33.6	35.9	49.4	42.4	46.4	(8-0-8)
FF-16	SC	33/42	11- 3-60	250	Starch	40.8	32.4	36.2	46.8	41.2	43.4	(8-0-8)
FF-17	SC	33/42	11- 7-60	250	Starch	36.6	33.0	34.3	51.6	41.4	44.6	(8-0-8)
FF-18	SC	42/42	11- 8-60	250	Starch	35.4	33.0	33.9	58.0	50.2	53.8	(8-0-8)
FF-19	SC	33/42	11- 8-60	250	Starch	43.2	37.8	41.6	64.4	48.4	55.1	(8-0-8)
FF-20	SC	33/42	11- 8-60	250	Starch	40.8	37.2	38.5	53.6	44.0	48.9	(8-0-8)
FF-21	SC	42/42	11- 9-60	250	Starch	37.8	36.6	37.4	58.2	50.4	54.5	(8-0-8)
FF-22	SC	33/42	11-11-60	250	Starch	39.6	34.8	37.6	47.6	43.2	45.4	(8-0-8)
FF-23	SC	33/42	11-15-60	250	Starch	43.8	36.6	40.4	53.6	48.4	50.6	(8-0-8)
FF-24	SC	33/42	11-15-60	250	Starch	42.6	34.8	38.5	53.0	46.4	50.2	(8-0-8)
FF-25	SC	42/42	11-21-60	250	Starch	37.8	33.0	34.6	49.6	45.6	48.4	(8-0-8)
FF-26	SC	42/33	11-22-60	250	Starch	38.4	36.0	37.3	51.4	46.8	49.2	(8-0-8)
FF-27	SC	42/42		280	Starch	37.8	34.8	35.9	59.0	53.8	55.5	(8-0-8)
FF-28	SC	42/33	11-28-60	250	Starch	40.8	35.4	38.1	55.4	46.8	50.2	(8-0-8)
FF-29	SC	42/33	11-30-60	250	Starch	39.6	34.2	37.2	56.2	44.8	45.0	(8-0-7)
FF-30	SC	33/42	12- 9-60	250	Starch	40.2	33.6	37.9	52.8	42.6	47.3	(8-0-8)

TABLE A-32 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT FF
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
FF-31	SC	33/42	12-12-60	250	Starch	42.6	37.2	40.0	51.8	44.0	47.5 (8-0-8)
FF-32	SC	33/42	12-14-60	250	Starch	40.2	34.8	38.8	51.8	43.0	48.4 (8-0-8)
FF-33	SC	33/42	12-15-60	250	Starch	41.4	38.4	39.9	49.8	46.0	47.6 (8-0-8)
FF-34	SC	33/42	12-16-60	250	Starch	39.6	33.0	36.8	52.2	42.4	47.0 (8-0-8)
FF-35	SC	33/42	12-27-60	250	Starch	40.8	35.4	38.0	59.6	48.0	53.6 (8-0-8)
FF-36	SC	33/42	12-28-60	250	Starch	42.6	36.0	39.8	51.4	45.6	49.3 (8-0-8)
FF-37	SC	33/42	1- 3-61	250	Starch	44.4	38.4	41.6	51.4	45.8	48.6 (8-0-8)
FF-38	SC	33/42	1- 6-61	225	Starch	40.2	37.2	38.2	54.8	48.8	52.0 (8-0-8)
FF-39	SC	33/42	1- 9-61	250	Starch	39.0	33.6	36.1	46.4	40.6	43.7 (8-0-8)
FF-40	SC	42/42	1-11-61	250	Starch	40.2	37.2	38.8	53.8	49.6	50.6 (8-0-8)
FF-41	SC	42/42	1-16-61	250	Starch	43.8	38.4	40.7	53.6	49.0	51.4 (8-0-8)
FF-42	SC	33/42	1-17-61	250	Starch	40.8	36.0	38.0	51.2	47.8	50.0 (8-0-8)
FF-43	SC	33/42	1-24-61	250	Starch	41.4	36.0	38.3	46.6	42.6	44.1 (8-0-8)
FF-44	SC	33/42	1-24-61	250	Starch	40.8	35.4	38.3	49.4	41.0	46.2 (8-0-8)
FF-45	SC	33/42	2- 3-61	250	Starch	42.0	37.2	39.4	55.4	45.4	50.2 (8-0-8)
FF-46	SC	33/42	2- 6-61	250	Starch	40.8	34.8	38.5	50.4	46.0	47.8 (8-0-8)
FF-47	SC	33/42	2- 7-61	275	Starch	42.0	37.8	39.9	52.4	46.2	48.3 (8-0-8)
FF-48	SC	33/42	2-10-61	250	Starch	41.4	36.6	39.5	58.8	48.0	54.6 (8-0-8)
FF-49	SC	33/42	2-14-61	250	Starch	41.4	37.2	39.3	55.0	51.6	53.1 (8-0-8)
FF-50	SC	33/42	2-17-61	275	Starch	40.8	34.2	37.5	64.2	54.8	52.9 (9-2-7)
FF-51	SC	42/42	2-20-61	240	Starch	40.2	31.8	38.0	52.2	45.6	48.3 (8-0-8)
FF-52	SC	33/42	2-17-61	275	Starch	43.8	36.6	39.0	58.4	42.2	54.9 (9-1-8)
FF-53	SC	33/42	2-27-61	275	Starch	40.2	35.4	39.6	58.0	54.6	55.8 (8-0-8)
FF-54	SC	33/42	2-28-61	275	Starch	43.8	34.8	39.5	57.8	51.4	54.1 (8-0-8)

TABLE A-33

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT GG
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
GG-1	SC	42/42	9-8-60	275	Starch	42.0	37.2	39.2	51.2	45.8	48.2	(8-0-8)
GG-2	SC	42/42	9-15-60	250	Starch	39.0	34.8	37.3	50.8	46.8	48.7	(8-0-8)
GG-3	SC	42/42	9-26-60	250	Starch	35.4	29.4	32.4	48.0	42.4	44.4	(8-0-8)
GG-4	SC	42/42	9-27-60	300	Starch	40.2	34.8	36.4	49.4	45.8	47.9	(8-0-8)
GG-5	SC	33/33	9-27-60	300	Starch	42.6	37.2	39.8	57.4	50.6	54.6	(8-0-8)
GG-6	SC	33/33	9-27-60	300	Starch	40.8	35.4	37.4	49.0	41.8	44.2	(8-0-8)
GG-7	SC	42/42	9-28-60	225	Starch	40.8	37.2	38.7	53.8	48.6	51.1	(8-0-8)
GG-8	SC	42/42	9-30-60	250	Starch	40.8	34.8	38.1	55.4	48.2	51.6	(8-0-8)
GG-9	SC	42/42	10-7-60	300	Starch	38.4	34.8	36.2	51.2	45.4	48.0	(8-0-8)
GG-10	SC	42/42	10-10-60	300	Starch	42.6	36.0	40.5	53.6	47.6	51.6	(8-0-8)
GG-11	SC	38/38	10-10-60	300	Starch	42.0	34.8	38.0	51.2	46.6	48.8	(8-0-8)
GG-12	SC	42/42	10-20-60	300	Starch	39.0	34.8	37.8	54.8	48.6	51.4	(8-0-8)
GG-13	SC	38/38	10-22-60	300	Starch	40.8	37.2	38.8	50.8	44.2	49.0	(8-0-8)
GG-14	SC	33/42	10-26-60	350	Starch	44.4	36.0	39.6	52.2	47.8	49.7	(8-0-8)
GG-15	SC	42/42	10-31-60	325	Starch	46.8	40.2	42.9	59.0	49.2	54.2	(8-0-8)
GG-16	SC	42/42	10-31-60	300	Starch	42.0	36.6	39.2	57.0	44.4	53.2	(8-0-8)
GG-17	SC	33/42	10-30-60	350	Starch	41.4	36.0	39.3	52.4	43.6	48.2	(8-0-8)
GG-18	SC	33/33	10-30-60	350	Starch	40.8	36.0	37.7	51.6	46.4	48.9	(8-0-8)
GG-19	SC	42/42	11-8-60	300	Starch	40.2	35.4	37.6	51.2	43.6	47.1	(8-0-8)
GG-20	SC	42/42	11-16-60	325	Starch	43.2	37.2	39.4	50.0	44.0	47.1	(8-0-8)
GG-21	SC	42/42	11-23-60	300	Starch	36.6	33.6	35.5	52.8	46.4	49.4	(8-0-8)
GG-22	SC	42/42	11-25-60	350	Starch	37.8	31.2	35.2	49.4	44.4	47.0	(8-0-8)
GG-23	SC	42/42	11-28-60	300	Starch	38.4	33.6	35.8	51.4	47.4	49.1	(8-0-8)
GG-24	SC	42/33	11-29-60	250	Starch	36.6	31.2	34.6	50.8	44.4	47.6	(8-0-8)
GG-25	SC	38/42	11-29-60	325	Starch	39.6	35.4	37.4	50.2	45.0	47.4	(8-0-8)
GG-26	SC	38/42	11-29-60	340	Starch	39.0	34.2	36.3	52.4	42.6	41.4	(8-0-8)
GG-27	SC	42/33	11-30-60	250	Starch	37.2	33.6	35.0	54.2	45.4	49.4	(8-0-8)
GG-28	SC	42/42	12-14-60	300	Starch	39.6	34.8	36.8	51.0	43.4	48.3	(8-0-8)
GG-29	SC	42/42	12-14-60	300	Starch	40.2	35.4	37.7	51.8	46.0	48.0	(8-0-8)
GG-30	SC	42/42	12-14-60	350	Starch	39.0	33.6	36.6	51.6	46.4	48.2	(8-0-8)

TABLE A-33 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT GG
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
GG-31	SC	42/42	12-16-60	250	Starch	42.6	34.8	39.8	58.8	48.8	52.6 (8-0-8)
GG-32	SC	42/42	12-21-60	300	Starch	37.8	33.0	36.4	47.0	37.0	40.6 (8-0-8)
GG-33	SC	42/42	12-22-60	300	Starch	44.4	37.8	41.5	57.0	48.6	53.6 (8-0-8)
GG-34	SC	42/42	1- 5-61	300	Starch	43.8	37.2	40.0	52.6	47.4	50.4 (8-0-8)
GG-35	SC	52/52	1- 9-61	250	Starch	42.0	34.2	38.0	56.6	48.4	51.8 (8-0-8)
GG-36	SC	52/52	1- 9-61	250	Starch	39.0	34.2	36.5	51.0	45.6	49.1 (8-0-8)
GG-37	SC	42/42	1-11-61	250	Starch	40.8	35.4	38.1	52.0	49.4	50.8 (8-0-8)
GG-38	SC	42/42	1-11-61	250	Starch	39.6	34.8	37.0	46.8	43.4	45.0 (8-0-8)
GG-39	SC	42/33	1-11-61	275	Starch	44.4	36.6	40.0	51.6	44.4	49.0 (8-0-8)
GG-40	SC	42/42	1-11-61	350	Starch	40.2	32.4	37.0	47.0	39.6	43.7 (8-0-8)
GG-41	SC	42/42	1-11-61	300	Starch	40.8	37.8	38.6	58.0	46.2	51.2 (8-0-8)
GG-42	SC	38/38	1-16-61	350	Starch	37.2	33.6	35.8	43.0	39.0	41.4 (8-0-8)
GG-43 ^a	SC	38/42	1-26-61	325	Starch	41.4	34.8	38.0			
GG-44	SC	42/42	1-24-61	350	Starch	45.0	34.8	39.8	52.0	46.0	49.1 (8-0-8)
GG-45	SC	42/42	1-25-61	300	Starch	43.2	34.2	38.6	54.8	45.0	50.9 (8-0-8)
GG-46	SC	42/42	2- 3-61	300	Starch	43.2	37.2	40.0	56.4	49.2	53.3 (8-0-8)
GG-47	SC	38/38	2- 7-61	300	Starch	40.8	36.0	38.8	46.6	43.2	44.8 (8-0-8)
GG-48	SC	42/42	2- 8-61	350	Starch	43.2	37.8	39.4	52.6	46.2	49.4 (8-0-8)
GG-49	SC	33/42	2-13-61	300	Starch	41.4	36.6	38.2	49.4	43.8	46.8 (8-0-8)
GG-50	SC	42/42	2-16-61	275	Starch	42.0	37.8	40.1	50.2	45.0	48.0 (8-0-8)
GG-51	SC	42/42	2-16-61	300	Starch	40.8	36.6	38.7	51.4	47.6	49.1 (8-0-8)
GG-52	SC	38/38	2-22-61	325	Starch	44.4	36.0	40.7	51.6	44.0	50.1 (8-0-8)
GG-53	SC	42/42	2-26-61	275	Starch	43.2	36.0	40.2	53.6	44.8	49.1 (8-0-8)
GG-54	SC	42/42	2-26-61	275	Starch	38.4	34.8	37.0	51.0	42.8	45.5 (8-0-8)
GG-55	SC	42/42	3- 1-61	250	Starch	45.6	34.2	38.6	53.6	46.2	49.9 (8-0-8)
GG-56	SC	42/42	3- 1-61	250	Starch	40.8	35.4	37.4	52.2	45.2	49.8 (8-0-8)

^a Combined board samples inadvertently discarded.

TABLE A-34

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT HH
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
HH-1	SC	38/38	8-12-60	350	Starch	40.8	33.6	37.5	34.2	31.8	32.5 (8-0-8)
HH-2	SC	38/38	8-13-60	400	Starch	39.6	34.8	37.3	39.0	33.8	36.3 (8-0-8)
HH-3	SC	42/42	8-19-60	325	Starch	37.2	33.0	35.2	35.8	33.6	34.6 (8-0-8)
HH-4	SC	33/42	8-23-60	350	Starch	42.0	33.6	38.2	40.4	34.4	37.6 (8-0-8)
HH-6	SC	42/42	8-30-60	380	Starch	34.8	30.0	32.2	40.8	33.2	37.0 (8-0-8)
HH-7	SC	42/42	9-29-60	250	Starch	36.6	31.8	34.2	31.8	28.2	29.6 (8-0-8)
HH-8	SC	42/42	9-28-60	245	Starch	40.8	36.0	37.7	35.6	32.6	34.4 (8-0-8)
HH-9	SC	42/33	10-18-60	300	Starch	41.4	33.6	37.5	38.4	30.2	33.2 (8-0-8)
HH-10	SC	42/42	10-20-60	300	Starch	42.6	34.8	37.4	33.6	32.0	33.1 (8-0-8)
HH-11	SC	38/38	11-14-60	250	Starch	37.2	32.4	35.1	35.2	31.6	33.5 (8-0-8)
HH-12	SC	33/33	11-14-60	325	Starch	37.8	30.6	35.0	35.4	31.6	33.5 (8-0-8)
HH-13	SC	33/33	11-14-60	300	Starch	36.0	31.2	33.5	34.4	30.4	31.7 (8-0-8)
HH-14	SC	42/42	11-14-60	250	Starch	39.6	36.6	37.6	35.2	29.2	32.8 (8-0-8)
HH-15	SC	42/42	11-15-60	300	Starch	36.0	33.6	34.8	33.0	26.4	30.0 (8-0-8)
HH-16	SC	42/47	11-22-60	340	Starch	39.6	33.6	35.8	35.8	30.4	33.8 (8-0-8)
HH-17	SC	42/42	11-23-60	380	Starch	36.0	31.8	33.9	33.0	30.2	31.9 (8-0-8)
HH-18	SC	42/42	11-29-60	375	Starch	35.4	29.4	32.2	34.0	30.2	32.1 (8-0-8)
HH-19	SC	42/42	11-29-60	360	Starch	33.0	28.8	31.2	30.6	25.6	28.9 (8-0-8)
HH-20	SC	42/42	11-30-60	360	Starch	33.0	27.0	30.2	30.4	26.2	28.1 (8-0-8)
HH-21	SC	42/42	12- 1-60	360	Starch	38.4	34.8	36.1	34.0	31.4	32.8 (8-0-8)
HH-22	SC	42/42	12- 1-60	400	Starch	36.6	34.2	35.6	34.8	33.0	33.9 (8-0-8)
HH-23	SC	42/42	12- 2-60	360	Starch	34.8	30.6	32.8	33.8	29.4	31.4 (8-0-8)
HH-24	SC	42/42	12- 6-60	400	Starch	37.2	31.8	34.7	36.4	33.0	34.8 (8-0-8)
HH-25	SC	42/42	12- 7-60	410	Starch	37.8	31.2	33.8	34.0	28.0	31.3 (8-0-8)
HH-26	SC	33/33	12- 7-60	400	Starch	33.6	29.4	31.6	31.4	28.0	30.0 (8-0-8)
HH-27	SC	42/42	12- 7-60	410	Starch	36.0	31.8	34.0	34.8	29.0	33.1 (8-0-8)
HH-28	SC	42/42	12-12-60	400	Starch	39.6	35.4	37.2	35.6	32.0	34.3 (8-0-8)
HH-29	SC	42/42	12-12-60	350	Starch	36.6	31.8	34.2	36.6	31.6	33.3 (8-0-8)
HH-30	SC	42/42	12-13-60	300	Starch	38.4	30.6	34.6	35.0	30.6	33.3 (8-0-8)
HH-31	SC	42/42	12-13-60	300	Starch	42.0	36.0	38.8	35.0	31.4	33.7 (8-0-8)

TABLE A-34 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT HH
(A-Flute)Page A-64
Report One

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
HH-32	SC	42/42	12-14-60	400	Starch	35.4	28.2	32.1	30.6	27.2	28.9 (8-0-8)
HH-33	SC	42/42	12-14-60	375	Starch	33.6	30.0	31.9	31.2	27.6	29.3 (8-0-8)
HH-34	SC	42/42	12-19-60	400	Starch	42.0	33.0	37.0	37.6	31.2	34.4 (8-0-8)
HH-35	SC	42/42	12-20-60	300	Starch	37.8	33.6	35.5	35.0	31.6	33.0 (8-0-8)
HH-36	SC	42/47	12-20-60	300	Starch	39.0	34.2	36.0	32.8	31.0	31.8 (8-0-8)
HH-37	SC	42/42	12-21-60	300	Starch	36.0	30.6	34.0	35.4	33.4	34.7 (8-0-8)
HH-38	SC	42/42	12-28-60	300	Starch	36.6	30.0	33.8	32.8	30.2	31.0 (8-0-8)
HH-39	SC	42/42	1- 3-61	340	Starch	35.4	31.8	33.6	33.4	29.2	31.7 (8-0-8)
HH-40	SC	42/42	1- 6-61	300	Starch	39.6	36.6	38.2	32.8	27.0	29.8 (8-0-8)
HH-41	SC	42/42	1- 6-61	300	Starch	37.8	34.2	36.2	30.8	28.8	30.0 (8-0-8)
HH-42	SC	33/26	1-31-61	320	Starch	37.2	35.4	36.5	33.2	31.0	32.2 (8-0-8)
HH-43	SC	38/47	2- 1-61	340	Starch	38.4	33.6	35.8	36.8	32.4	34.2 (8-0-8)
HH-44	SC	42/42	2-21-61	380	Starch	40.8	36.0	38.3	35.2	32.0	33.8 (8-0-8)
HH-45	SC	42/42	2-21-61	380	Starch	39.6	34.8	37.9	33.8	31.8	32.8 (8-0-8)
HH-46	SC	42/42	2-21-61	360	Starch	38.4	34.2	36.7	34.4	30.4	32.4 (8-0-8)
HH-47	SC	42/42	2-21-61	380	Starch	38.4	34.2	36.7	33.6	31.8	32.7 (8-0-8)
HH-48	SC	42/42	3-14-61	380	Starch	36.0	31.2	34.0	37.4	35.6	36.2
HH-49	SC	42/42	4- 5-61	350	Starch	39.0	31.2	35.2	35.4	30.0	32.6

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TABLE A-35

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT II
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
II-1	SC	42/42	8-18-60	300	Starch	40.8	33.6	37.9	46.0	37.0	40.4 (8-0-8)
II-2	SC	42/42	8-31-60	300	Starch	37.8	31.8	35.5	48.8	44.6	46.8 (9-1-8)
II-3	SC	42/42	9-14-60	200 start 340 end	Starch	37.2	31.8	34.2	42.4	36.0	39.0 (8-0-8)
II-4	SC	42/42	9-23-60	400	Starch	36.0	30.0	32.2	48.0	35.0	41.0 (8-0-8)
II-5	SC	42/42	10-21-60	500	Starch	34.8	26.2	31.8	38.4	31.2	33.2 (8-0-8)
II-6	SC	42/42	10-21-60	200	Starch	36.0	31.2	33.5	40.4	33.4	36.1 (8-0-8)
II-7	SC	42/42	10-24-60	200 start 340 end	Starch	38.4	33.6	35.3	51.0	40.2	43.6 (8-0-8)
II-8	SC	42/42	10-26-60	180 start 320 end	Starch	33.6	28.8	31.5	41.6	36.6	38.6 (8-0-8)
II-9	SC	42/42	10-27-60	220	Starch	36.0	28.8	32.9	42.6	37.6	39.6 (8-0-8)
II-10	SC	42/42	10-27-60	240 start 340 end	Starch	34.2	28.2	30.3	39.6	34.2	36.7 (8-0-8)
II-11	SC	42/42	10-27-60	350	Starch	44.4	36.0	38.6	45.0	39.0	41.9 (8-0-8)
II-12	SC	42/42	10-31-60	350	Starch	36.6	32.4	34.9	47.0	41.0	44.4 (8-0-8)
II-13	SC	42/42	11- 1-60	230 start 380 end	Starch	37.8	32.4	35.2	55.6	40.0	46.4
II-14	SC	42/42	11- 1-60	300	Starch	36.6	31.8	34.1	46.6	39.6	43.9 (8-0-8)
II-15	SC	42/42	11- 7-60	300	Starch	34.2	30.0	31.7	48.0	39.6	42.8 (8-0-8)
II-16	SC	42/42	11- 7-60	180	Starch	35.4	31.2	34.0	47.0	40.4	44.1 (8-0-8)
II-17	SC	42/42	11-22-60	280	Starch	40.8	36.0	38.2	56.2	46.0	51.8 (8-0-8)
II-18	SC	42/42	11-22-60	220	Starch	40.2	35.4	37.6	44.8	40.4	44.6 (8-0-8)
II-19	SC	42/42	11-22-60	200	Starch	34.8	31.8	33.6	51.4	44.2	46.7 (8-0-8)
II-20	SC	42/42	12- 8-60	400	Starch	45.0	38.4	40.6	55.0	46.0	50.2 (10-2-8)
II-21	SC	42/42	12-13-60	500 start 340 end	Starch	36.6	29.4	32.5	43.8	35.0	39.3 (8-0-8)
II-22	SC	42/42	12-15-60	300 start 420 end	Starch	33.0	27.0	31.1	42.2	34.0	39.0 (8-0-8)
II-23	SC	42/42	12-16-60	500	Starch	40.8	33.6	36.9	47.4	39.4	43.3 (8-0-8)
II-24	SC	42/42	12-16-60	350	Starch	43.2	37.8	40.9	49.4	42.0	47.4 (8-0-8)

TABLE A-35 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT II
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
II-25	SC	42/42	1-11-61	250	Starch	36.6	31.8	34.6	40.4	33.4	39.2 (8-0-8)
II-26	SC	42/42	1-16-61	220	Starch	34.8	30.0	32.2	39.6	31.0	35.5 (8-0-8)
II-27	SC	42/42	1-23-61	400	Starch	38.4	34.8	36.5	50.0	40.8	45.6 (8-0-8)
II-28	SC	42/42	1-30-61	200	Starch	39.6	34.2	37.0	54.6	44.0	48.9 (8-0-8)
II-29	SC	42/42	1-30-61	200	Starch	36.0	31.2	33.5	38.2	32.4	35.7 (8-0-8)
II-30	SC	42/42	1-30-61	200	Starch	39.0	31.8	35.2	45.4	38.4	42.0 (8-0-8)
II-31	SC	42/42	1-31-61	300	Starch	40.2	34.8	37.0	52.2	45.0	49.4 (8-0-8)
II-32	SC	42/42	1-31-61	420	Starch	40.8	30.6	35.0	46.8	38.8	42.8 (8-0-8)
II-33	SC	42/42	2-10-61	200	Starch	34.2	30.0	32.2	38.8	33.4	36.9 (8-0-8)
II-34	SC	--	2-14-61	260	Starch	36.6	32.4	34.8	43.4	32.8	40.2 (8-0-8)
II-35	SC	42/42	2-22-61	300	Starch	34.8	31.8	33.1	42.2	34.0	37.2 (8-0-8)
II-36	SC	42/42	2-22-61	200 start 380 end	Starch	32.4	28.8	30.6	37.6	30.0	33.4 (8-0-8)
II-37	SC	42/42	2-22-61	200 start 360 end	Starch	42.6	34.8	38.7	51.0	36.2	44.8 (8-0-8)
II-38	SC	42/42	2-22-61	400	Starch	41.4	34.2	38.2	50.8	36.8	43.0 (8-0-8)

TABLE A-36

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT JJ
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
JJ-1	SC	47/47	9- 6-60	260	Starch	38.4	33.0	35.8	48.2	42.4	44.8	(9-1-8)
JJ-2	SC	42/47	9- 8-60	270	Starch	33.6	28.2	31.3	46.4	37.2	42.2	(8-0-8)
JJ-3	SC	42/47	9-20-60	300	Starch	34.8	27.0	31.9	50.2	42.8	47.2	(8-0-8)
JJ-4	SC	42/42	10- 4-60	250	Resorcinol	35.4	30.0	32.2	54.0	39.8	44.3	(8-0-8)
JJ-5	SC	42/42	10-22-60	300	Starch	33.6	28.2	30.9	49.8	40.4	45.3	(8-0-8)
JJ-6	SC	42/42	10-25-60	275	Resorcinol	37.8	33.0	35.6	50.8	45.0	48.2	(8-0-8)
JJ-7	SC	42/42	10-28-60	250	Starch	37.2	29.4	33.2	48.4	44.0	45.8	(8-0-8)
JJ-8	SC	42/47	11- 7-60	300	Starch	36.6	26.4	32.0	50.8	40.6	45.4	(8-0-8)
JJ-9	SC	42/42	11-18-60	325	Starch	37.2	33.6	34.4	47.4	41.8	45.1	(8-0-8)
JJ-10	SC	42/42	11-28-60	250	Resorcinol	37.2	30.0	34.6	53.2	42.8	48.1	(8-0-8)
JJ-11	SC	42/42	11-28-60	250	Resorcinol	35.4	32.4	34.1	49.2	46.0	47.6	(8-0-8)
JJ-12	SC	42/42	12- 1-60	300	Starch	33.0	28.8	30.7	45.2	37.6	41.5	(8-0-8)
JJ-13	SC	42/42	12- 1-60	200	Starch	33.6	30.0	31.6	46.4	40.0	42.8	(8-0-8)
JJ-14	SC	42/42	12- 8-60	250	Resorcinol	36.0	28.2	32.8	45.6	40.2	43.4	(8-0-8)
JJ-15	SC	42/42	12-13-60	250	Starch	34.2	31.2	32.3	44.4	38.2	41.5	(8-0-8)
JJ-16	SC	42/42	12-14-60	300	Starch	33.6	29.4	31.6	44.4	38.0	41.6	(8-0-8)
JJ-17	SC	42/42	12-21-60	250	Weatherproof	36.6	33.0	35.0	60.0	51.8	55.1	(8-0-8)
JJ-18	SC	42/42	12-22-60	300	Starch	37.8	31.8	34.6	46.2	42.2	45.0	(11-3-8)
JJ-19	SC	42/42	12-23-60	275	Starch	38.4	30.6	33.5	44.4	38.6	41.0	(8-0-8)
JJ-20	SC	42/42	2- 1-61	250	Starch	36.0	31.8	33.8	54.0	39.2	46.7	(8-0-8)
JJ-21	SC	42/42	2-24-61	200	Starch	37.8	31.8	34.0	45.8	40.0	42.8	(8-0-8)
JJ-22	SC	42/42	3- 2-61	250	Weatherproof	34.8	28.8	32.0	47.4	41.8	42.3	(8-0-8)
JJ-23	SC	42/42	3-14-61	250	Starch	34.8	28.8	32.2	43.0	35.4	40.4	(8-0-8)
JJ-24	SC	42/42	3-20-61	250	Starch	33.6	27.6	31.6	44.2	37.8	40.4	(8-0-8)

TABLE A-37

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT KK
(C-Flute).

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
KK-1	SC	42/42	8-31-60	360	Starch silicate	35.4	31.2	33.5	43.6	37.6	40.8 (8-0-8)
KK-2	SC	42/42	9-14-60	200 start	Starch	36.0	30.6	32.9	41.6	37.6	39.4 (9-1-8)
KK-3	SC	42/42	9-30-60	330 end							
KK-4	SC	42/42	9-30-60	330 start	Starch	30.6	28.8	29.6	47.6	33.2	39.6 (8-0-8)
KK-5	SC	42/42	9-30-60	220 end							
KK-6A	SC	42/42	10-11-60	460 start	Starch	34.8	29.4	31.7	45.8	37.0	40.5 (8-0-8)
KK-6B	SC	42/42	10-14-60	200 end							
KK-7	SC	42/42	10-17-60	320 start	Starch	36.6	32.4	34.6	43.6	37.8	40.6 (8-0-8)
KK-8	SC	42/42	10-17-60	200 end							
KK-9	SC	42/42	10-20-60	220	Starch	36.0	28.8	32.3	43.8	38.0	41.9 (8-0-8)
KK-10	SC	42/42	10-25-60	330	Starch	38.4	28.8	33.3	40.4	36.4	38.2 (8-0-8)
KK-11	SC	42/42	10-25-60	400	Starch	35.4	32.4	34.0	41.4	36.0	38.5 (8-0-8)
KK-12	SC	42/42	10-25-60	340	Starch	37.2	30.6	33.2	43.0	37.6	40.0 (8-0-8)
KK-13	SC	38/38	10-24-60	460	Starch	36.6	30.6	32.6	42.8	37.6	40.1 (8-0-8)
KK-14	SC	42/42	10-24-60	350	Starch	36.0	31.8	34.2	51.0	42.6	45.8 (8-0-8)
KK-15	SC	42/42	10-25-60	370	Starch	34.2	27.6	31.6	45.2	39.2	42.0 (8-0-8)
KK-16	SC	42/42	10-25-60	200	Starch	40.8	34.2	37.2	48.8	41.8	46.6 (8-0-8)
KK-17	SC	42/42	10-26-60	250 start	Starch silicate	34.8	30.0	32.6	42.4	37.0	39.7 (8-0-8)
KK-18	SC	42/42	10-26-60	320 end							
KK-19	SC	42/42	10-26-60	180 start	Starch	36.0	32.4	34.4	45.2	37.6	41.2 (8-0-8)
KK-20	SC	42/42	11- 4-60	320 end							
KK-21	SC	42/42	11- 4-60	280	Starch	32.4	24.0	29.5	36.8	29.0	33.6 (8-0-8)
KK-22	SC	42/42	11- 7-60	330	Starch	32.4	24.0	29.5	36.8	29.0	33.6 (8-0-8)
KK-23	SC	42/42	11- 7-60	200	Starch	43.8	37.8	40.0	52.6	44.4	47.5 (8-0-8)
KK-24	SC	42/42	11- 7-60	200	Starch	33.0	28.8	31.4	47.4	40.0	41.2 (8-0-8)
KK-25	SC	42/42	11- 7-60	280	Starch	37.2	31.8	34.9	46.8	40.0	44.1 (8-0-8)
KK-26	SC	42/42	11-16-60	400	Starch	38.4	33.0	34.7	50.6	42.4	47.5 (8-0-8)
KK-27	SC	42/42	11-16-60	340	Starch	35.4	28.8	31.4	45.0	40.2	42.4 (8-0-8)
KK-28	SC	42/42	11-22-60	350	Starch	36.0	30.0	32.8	46.2	41.8	44.1 (8-0-8)
KK-29	SC	42/42	11-22-60	290	Starch	37.2	31.2	34.4	46.8	43.8	45.5 (8-0-8)
KK-30	SC	42/42	11-22-60	180	Starch	33.6	30.6	32.0	42.2	35.8	40.2 (8-0-8)

TABLE A-37 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT KK
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
KK-24	SC	42/42	12- 7-60	320	Starch	32.4	29.4	31.4	38.6	32.6	35.8 (8-0-8)
KK-25	SC	42/42	12- 7-60	370	Starch	37.8	31.8	35.8	49.6	44.6	46.6 (8-0-8)
KK-26	SC	42/42	12-15-60	200	Starch	36.0	32.4	33.9	43.4	39.6	41.8 (8-0-8)
KK-27	SC	42/42	12-15-60	200	Starch	35.4	31.8	33.4	37.6	34.2	36.0 (8-0-8)
KK-28	SC	42/42	12-19-60	200	Starch	33.6	28.8	31.1	41.0	37.6	39.4 (8-0-8)
KK-29	SC	42/42	12-19-60	400	Starch	33.0	28.2	30.6	39.6	37.2	38.3 (8-0-8)
KK-30	SC	42/42	12-20-60	290	Starch	34.2	27.0	31.0	38.0	33.0	35.5 (8-0-8)
KK-31	SC	42/42	12-22-60	200	Starch	37.2	31.8	35.1	49.6	43.2	45.4 (8-0-8)
KK-32	SC	42/42	12-27-60	250	Starch	42.0	37.8	40.0	53.8	49.0	51.0 (8-0-8)
KK-33	SC	42/42	1- 4-61	240	Starch	37.2	31.2	33.6	43.2	35.6	40.1 (8-0-8)
KK-34	SC	42/42	1- 5-61	400	Starch	39.0	32.4	34.7	44.2	38.8	41.2 (8-0-8)
KK-34A	SC	42/42	1-10-61	380	Starch	37.2	32.4	35.5	40.4	36.8	38.5 (8-0-8)
KK-35	SC	42/42	1-17-61	200	Starch	38.4	34.8	37.6	44.4	39.0	41.7 (8-0-8)
KK-36	SC	42/42	1-17-61	340	Starch	35.4	31.2	32.8	40.2	37.0	39.0 (8-0-8)
KK-37	SC	42/42	1-17-61	320	Starch	36.6	30.0	33.9	46.0	41.0	43.5 (8-0-8)
KK-38	SC	42/42	1-17-61	300	Starch	39.6	33.6	35.7	45.4	39.6	42.5 (8-0-8)
KK-39	SC	42/42	1-17-61	300	Starch	35.4	29.4	32.7	38.8	30.2	35.9 (8-0-8)
KK-40	SC	42/42	1-23-61	300	Starch S.F. silicate D.F.	35.4	29.4	32.5	41.0	37.6	39.2 (8-0-8)
KK-41	SC	42/42	1-23-61	300	Starch S.F. silicate D.F.	33.6	30.0	32.0	40.6	37.4	39.1 (8-0-8)
KK-42	SC	38/38	2- 6-61	200	Starch	44.4	37.8	40.6	50.6	46.8	48.6 (8-0-8)
KK-43	SC	42/42	2- 6-61	200	Starch	40.8	31.8	34.6	42.4	34.0	38.2 (8-0-8)
KK-44	SC	42/42	2- 6-61	220	Starch	34.8	29.4	32.2	41.4	35.4	38.6 (8-0-8)
KK-45	SC	42/42	2- 6-61	350	Starch	39.0	34.8	37.0	52.2	44.2	48.2 (8-0-8)
KK-46	SC	42/42	2-22-61	340 start 380 end	Starch	35.4	30.6	32.5	39.8	33.8	36.6 (8-0-8)
KK-47	SC	42/42	2-22-61	350	Starch	37.8	33.6	36.6	48.4	41.4	44.4 (8-0-8)
KK-48	SC	42/42	2-22-61	200	Starch	36.0	25.8	31.8	41.2	34.2	38.4 (8-0-8)
KK-49	SC	42/42	2-22-61	340	Starch	36.6	28.8	33.1	44.8	33.2	36.0 (8-0-8)
KK-50	SC	42/42	2-23-61	200	Starch	39.6	34.8	37.4	48.4	42.6	45.0 (8-0-8)

TABLE A-37 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT KK
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
KK-51	SC	42/42	2-27-61	200	Starch	43.8	35.4	39.1	52.0	43.0	47.1 (8-0-8)
KK-52	SC	42/42	2-27-61	300	Starch	43.8	36.0	39.9	49.6	42.4	47.0 (8-0-8)
KK-53	SC	42/42	2-27-61	250	Starch	41.4	34.2	38.2	47.2	41.4	44.0 (8-0-8)
KK-54	SC	42/42	2-27-61	200 start							
				320 end	Starch	44.4	36.6	40.4	50.4	46.4	48.3 (8-0-8)

TABLE A-38
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT LL
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
LL-1	SC	42/42	9- 6-60	250	Starch	33.0	29.4	31.0	42.6	37.8	40.0 (8-0-8)
LL-2	SC	42/42	9-21-60	250	Starch	32.4	28.8	31.1	43.4	35.0	40.0 (8-0-8)
LL-3	SC	42/42	10-13-60	200	Starch	40.8	31.2	35.8	47.6	43.8	45.8 (8-0-8)
LL-4	SC	42/42	10-21-60	300	Starch	40.8	34.8	37.4	43.2	38.4	41.4 (8-0-8)
LL-5	SC	42/42	10-24-60	265	Starch	37.8	27.0	32.8	46.8	40.4	44.3 (8-0-8)
LL-6	C	42/42	10-31-60	240	Starch	39.6	31.8	34.9	48.6	40.0	45.7 (8-0-8)
LL-7	SC	42/42	11- 3-60	250	Starch	40.8	30.6	35.9	46.0	41.6	43.1 (8-0-8)
LL-8	SC	42/42	11-10-60	300	Starch	37.2	28.8	31.0	46.0	36.0	39.6 (8-0-8)
LL-9	SC	42/42	11-30-60	250	Starch	33.0	29.4	31.0	44.4	38.8	42.3 (8-0-8)
LL-10	SC	33/47	12- 2-60	250	Starch	33.0	28.8	31.6	43.6	39.4	41.1 (8-0-8)
LL-11	SC	42/42	12- 8-60	300	Starch	37.2	30.6	33.1	41.8	35.0	37.9 (8-0-8)
LL-12	SC	42/42 start 33/47 end	12- 9-60	300	Starch	36.6	31.2	33.7	41.8	37.8	40.4 (8-0-8)
LL-13	SC	42/42	12- 9-60	300	Starch	37.8	31.8	34.4	45.6	41.6	43.4 (8-0-8)
LL-14	SC	33/42	12-15-60	250	Starch	33.0	27.6	30.2	36.8	34.0	35.7 (8-0-8)
LL-15	SC	42/42	12-16-60	250	Starch	37.8	28.8	33.3	44.0	37.0	41.6 (8-0-8)
LL-16	SC	42/42	12-20-60	235	Starch	31.8	30.0	31.0	40.2	29.8	37.1 (8-0-8)
LL-17	SC	42/42	12-27-60	275	Starch	36.0	30.0	32.8	44.6	39.4	41.8 (8-0-8)
LL-18	SC	42/42	12-28-60	250	Starch	35.4	30.0	33.2	44.6	36.8	40.3 (8-0-8)
LL-19	SC	42/42	12-29-60	300	Starch	40.2	32.4	35.2	48.4	42.4	45.3 (8-0-8)
LL-20	SC	42/42	1-20-61	250	Starch	37.8	33.6	35.8	50.0	37.0	42.3 (8-0-8)
LL-21	SC	42/42	2- 6-61	250	Starch	34.8	29.4	33.0	43.8	37.2	40.2 (8-0-8)
LL-22	SC	42/42	2-13-61	200	Starch	36.6	32.4	34.8	48.8	40.4	44.8 (8-0-8)
LL-23	SC	33/42	2-20-61	250	Starch	37.8	33.6	35.6	46.6	42.4	45.1 (8-0-8)

TABLE A-39

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT MM
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
MM-1	SC	33/42	9-23-60	350	Starch	38.4	34.8	35.8	51.4	44.2	48.0 (8-0-8)
MM-2	SC	42/42	9-30-60	290	Starch	37.8	29.4	34.1	48.4	44.8	46.5 (8-0-8)
MM-3	SC	42/42	10- 3-60	300	Starch	34.8	31.8	33.2	45.4	37.8	40.2 (8-0-8)
MM-4	SC	42/42	10- 4-60	250	Starch	33.6	30.6	32.2	48.4	41.4	44.9 (8-0-8)
MM-5	SC	42/42	10-10-60	250	Starch	36.6	30.0	33.4	50.6	42.6	47.6 (8-0-8)
MM-6	SC	42/42	10-18-60	-	Starch	34.8	31.8	33.1	54.4	45.2	50.0 (8-0-8)
MM-8	SC	42/42	10-24-60	300	Starch	34.8	31.2	33.0	48.8	39.2	44.6 (8-0-8)
MM-9	SC	33/42	10-31-60	300	Starch	31.8	29.4	31.0	46.2	42.0	44.0 (8-0-8)
MM-11	SC	33/42	11-17-60	300	Starch	38.4	32.4	35.5	54.8	30.6	48.7 (8-0-8)
MM-12	SC	42/42	11-21-60	-	Starch	34.8	30.0	32.5	53.6	49.4	50.7 (8-0-8)
MM-13	SC	--	11-24-60	325	Starch	35.4	31.2	33.2	51.4	32.2	45.6 (8-0-8)
MM-14	SC	42/42	11-29-60	290	Starch	36.0	30.6	33.2	48.7	44.4	46.4 (8-0-8)
MM-15	SC	42/42	11-30-60	300	Starch	34.8	30.0	32.2	48.4	43.4	46.0 (8-0-8)
MM-16	SC	42/42	12- 5-60	300	Starch	34.2	31.2	32.6	50.0	43.0	45.0 (8-0-8)
MM-17	SC	42/42	12- 6-60	300	Starch	35.4	30.6	33.2	46.4	38.0	43.0 (8-0-8)
MM-18	SC	33/42	12- 7-60	325	Starch	33.6	28.8	31.3	51.6	41.2	47.6 (8-0-8)
MM-19	SC	--	12- 8-60	325	Starch	33.0	28.2	30.1	48.4	37.8	45.6 (8-0-8)
MM-21	SC	42/42	12-13-60	300	Starch	40.8	33.0	37.2	51.4	40.0	48.0 (8-0-8)
MM-23	SC	42/42	12-16-60	295	Starch	35.4	29.4	32.2	49.8	42.4	46.0 (8-0-8)
MM-24	SC	42/42	12-19-60	325	Starch	39.6	34.8	36.8	58.6	38.0	50.0 (8-0-8)
MM-25	SC	42/42	12-20-60	325	Starch	33.0	30.0	31.6	52.8	48.0	49.6 (8-0-8)
MM-26	SC	42/42	12-22-60	285	Starch	38.4	31.8	34.7	50.4	33.6	41.7 (8-0-8)
MM-27	SC	42/47	12-28-60	290	Starch	36.0	31.8	33.5	45.8	38.0	42.7 (8-0-8)
MM-28	SC	42/42	12-29-60	325	Starch	36.0	31.2	33.9	50.4	48.2	49.1 (8-0-8)
MM-29	SC	33/42	1- 3-61	275	Starch	39.0	31.8	35.9	55.6	37.0	49.6 (8-0-8)
MM-30	SC	42/42	1- 4-61	325	Starch	34.8	30.6	32.2	51.8	37.2	45.1 (8-0-8)
MM-31	SC	33/42	1- 5-61	310	Starch	40.8	35.4	37.4	50.8	48.0	49.0 (8-0-8)
MM-32	SC	42/42	1- 6-61	295	Starch	37.8	32.4	34.9	50.8	44.2	48.0 (8-0-8)
MM-33	SC	42/42	1- 9-61	-	Starch	35.4	31.8	32.5	57.4	36.8	47.3 (8-0-8)
MM-34	SC	42/42	1-10-61	300	Starch	34.8	30.0	33.0	49.2	45.6	47.0 (8-0-8)

TABLE A-39 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT MM
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
MM-35	SC	42/42	1-11-61	305	Starch	37.2	33.0	35.2	50.0	40.6	45.8 (8-0-8)
MM-36	SC	42/42	1-12-61	300	Starch	38.4	30.0	33.2	45.4	41.8	43.2 (8-0-8)
MM-37	SC	42/42	1-13-61	310	Starch	35.4	31.8	33.9	52.6	43.0	47.3 (8-0-8)
MM-38	SC	42/42	1-16-61	315	Starch	37.8	34.8	36.2	53.4	33.8	49.4 (8-0-8)
MM-39	SC	42/42	1-17-61	310	Starch	37.8	34.2	35.8	53.4	46.0	48.3 (9-1-8)
MM-40	SC	42/42	1-19-61	300	Starch	37.2	30.0	34.3	51.2	47.2	49.0 (8-0-8)
MM-41	SC	42/42	1-20-61	305	Starch	36.0	33.0	34.4	53.4	46.0	49.5 (8-0-8)
MM-42	SC	42/42	1-23-61	315	Starch	37.8	29.4	33.5	49.2	42.2	45.4 (8-0-8)
MM-43	SC	42/42	1-24-61	305	Starch	37.8	31.8	34.4	51.8	48.0	50.1 (8-0-8)
MM-44	SC	33/42	1-27-61	310	Starch	35.4	31.8	34.0	52.2	47.0	49.4 (8-0-8)
MM-45	SC	42/42	1-30-61	310	Starch	35.4	31.8	33.2	45.4	43.0	44.0 (8-0-8)
MM-46	SC	33/42	1-31-61	310	Starch	37.8	30.6	33.1	51.2	42.6	47.2 (8-0-8)
MM-47	SC	42/42	2- 3-61	305	Starch	35.4	31.2	33.2	47.0	44.8	45.7 (8-0-8)
MM-48	SC	42/42	2- 6-61	310	Starch	40.2	34.8	37.9	52.6	39.8	46.8 (8-0-8)
MM-49	SC	42/42	2- 7-61	315	Starch	34.8	30.6	32.6	49.2	44.8	47.0 (8-0-8)
MM-50	SC	42/42	2-13-61	310	Starch	37.8	31.8	33.6	51.0	44.0	46.9 (8-0-8)
MM-51	SC	42/42	2-14-61	320	Starch	40.8	32.4	36.4	48.8	41.2	44.6 (8-0-8)
MM-52	SC	42/42	2-15-61	200	Starch	37.8	34.2	36.2	52.0	42.4	46.0 (8-0-8)
MM-53	SC	42/42	2-16-61	310	Starch	33.6	28.8	30.4	46.6	42.2	44.5 (8-0-8)
MM-54	SC	42/42	2-17-61	290	Starch	35.4	30.6	34.0	44.6	40.6	42.5 (8-0-8)
MM-55	SC	42/42	2-20-61	310	Starch	35.4	31.8	33.7	46.4	41.6	44.0 (8-0-8)
MM-56	SC	42/42	2-24-61	300	Starch	37.8	34.2	36.0	50.2	41.8	45.4 (8-0-8)
MM-57	SC	42/42	3- 1-61	300	Starch	42.0	29.4	26.4	48.4	41.0	45.2 (8-0-8)

TABLE A-40

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT NN
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
NN-1	SC	42/42	9-28-60	350	Starch	35.4	31.2	33.0	44.6	38.2	42.2 (8-0-8)
NN-2	SC	42/42	9-29-60	330	Starch	34.8	30.6	32.8	42.8	38.0	40.6 (8-0-8)
NN-3	SC	42/42	10- 7-60	325	Starch	38.4	33.0	36.6	44.0	33.0	38.8 (8-0-8)
NN-4	SC	42/42	10-12-60	330	Starch	37.8	33.6	35.9	48.2	43.6	45.2 (8-0-8)
NN-5	SC	42/42	10-17-60	350	Starch	36.6	31.8	33.8	46.4	43.4	44.9 (8-0-8)
NN-6	SC	42/42	10-17-60	350 start 345 end	Starch	37.2	31.8	34.7	46.8	41.8	44.6 (8-0-8)
NN-7	SC	42/42	10-21-60	350 start 330 end	Starch	35.4	28.8	32.3	43.6	35.2	39.9 (8-0-8)
NN-8	SC	42/42	10-24-60	350	Starch	36.0	30.6	32.8	45.6	41.6	43.8 (8-0-8)
NN-9	SC	42/42	10-27-60	350	Starch	37.2	33.6	35.3	49.6	38.2	44.0 (8-0-8)
NN-10	SC	33/42	10-31-60	350	Starch	36.0	33.0	34.5	48.4	44.0	45.9 (8-0-8)
NN-11	SC	42/42	11- 1-60	350	Starch	36.0	30.6	32.9	47.4	38.4	42.5 (8-0-8)
NN-12	SC	42/42	11- 7-60	340 start 345 end	Starch	33.0	28.8	30.8	44.8	39.8	41.9 (8-0-8)
NN-13	SC	42/42	11-10-60	340 start 200 end	Starch	32.4	29.4	31.0	46.2	38.2	41.7 (8-0-8)
NN-14	SC	42/42	11-10-60	340	Starch	34.2	30.0	32.0	43.8	41.0	42.4 (8-0-8)
NN-15	SC	42/33	11-16-60	350 start 330 end	Starch	36.0	33.0	34.2	48.6	38.0	43.8 (8-0-8)
NN-16	SC	42/42	11-22-60	345 start 350 end	Starch	35.4	31.2	33.2	48.4	40.8	44.6 (8-0-8)
NN-17	SC	33/42	12- 1-60	345	Starch	33.6	30.0	31.6	46.8	44.0	45.8 (8-0-8)
NN-18	SC	33/42	12- 1-60	350 start 345 end	Starch	34.2	31.2	32.7	49.2	41.8	46.3 (8-0-8)
NN-19	SC	42/42	12- 5-60	340 start 325 end	Starch	34.8	30.0	32.1	48.2	41.8	44.8 (8-0-8)
NN-20	SC	42/42	12- 6-60	345	Starch	35.4	30.0	32.7	43.8	35.0	33.7 (8-0-7)
NN-21	SC	42/42	12- 9-60	250 start 340 end	Starch	33.0	31.2	32.0	46.8	40.2	43.0 (8-0-8)
NN-22	SC	42/42	12- 8-60	340 start 350 end	Starch	38.4	33.6	36.7	48.8	40.4	44.9 (8-0-8)

TABLE A-40 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT NN
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
NN-23	SC	42/33	12-12-60	330 start							
				345 end	Starch	34.8	30.6	33.6	46.6	40.8	44.1 (8-0-8)
NN-24	SC	42/42	12-13-60	345	Starch	33.6	31.2	32.2	46.0	40.0	43.6 (8-0-8)
NN-25	SC	42/42	12-15-60	350 start							
				340 end	Starch	36.0	31.2	33.0	42.0	36.0	40.5 (8-0-8)
NN-26	SC	42/42	12-15-60	350	Starch	34.2	30.0	32.3	47.0	40.0	43.1 (8-0-8)
NN-27	SC	42/42	12-19-60	350	Starch	35.4	27.6	32.1	43.4	35.6	41.3 (8-0-8)
NN-28	SC	42/42	12-19-60	350	Starch	34.2	30.0	32.0	44.0	36.0	40.7 (8-0-8)
NN-29	SC	42/42	12-20-60	350	Starch	34.8	31.2	33.4	41.8	37.8	39.5 (8-0-8)
NN-30	SC	42/42	12-21-60	350	Starch	33.0	30.0	31.6	41.4	38.2	39.7 (8-0-8)
NN-31	SC	42/42	12-21-60	-	Starch	34.2	30.0	32.1	45.2	36.2	40.2 (8-0-8)
NN-32	SC	47/47	12-22-60	345 start							
				350 end	Starch	37.2	30.0	33.1	43.8	36.2	39.3 (8-0-8)
NN-33	SC	42/42	12-27-60	345 start							
				350 end	Starch	34.8	30.0	32.1	45.2	37.8	40.8 (8-0-8)
NN-34	SC	42/42	12-27-60	350	Starch	34.8	31.2	33.0	48.2	40.0	42.3 (8-0-8)
NN-35	SC	33/42	12-28-60	350	Starch	35.4	31.2	33.5	47.6	37.4	43.4 (8-0-8)
NN-36	SC	42/42	12-28-60	350	Starch	33.6	30.0	32.2	45.8	37.8	40.8 (8-0-8)
NN-37	SC	42/42	12-29-60	350	Starch	35.4	30.0	32.2	43.2	36.8	40.1 (8-0-8)
NN-38	SC	42/42	1- 4-61	350	Starch	34.2	31.2	32.6	42.4	36.0	39.8 (8-0-8)
NN-39	SC	42/42	1- 4-61	350	Starch	34.8	29.4	32.2	42.6	38.6	40.6 (8-0-8)
NN-40	SC	42/42	1- 9-61	345 start							
				545 end	Starch	38.4	33.0	35.2	49.2	42.4	45.8 (8-0-8)
NN-41	SC	42/42	1- 9-61	350	Starch	34.8	28.8	32.3	44.0	40.0	42.4 (8-0-8)
NN-42	SC	42/42	1-11-61	350	Starch	39.0	35.4	37.5	53.4	47.4	50.1 (8-0-8)
NN-43	SC	42/42	1-16-61	350	Starch	35.4	30.0	33.4	47.4	41.0	44.4 (8-0-8)
NN-44	SC	42/42	1-19-61	350	Starch	34.2	30.6	32.6	44.6	38.4	41.3 (8-0-8)
NN-45	SC	42/42	1-17-61	225 start							
				350 end	Starch	34.2	31.2	33.2	42.4	36.8	39.8 (8-0-8)
NN-46	SC	33/42	1-24-61	345 start							
				340 end	Starch	37.8	30.6	33.7	46.6	42.0	44.5 (8-0-8)

TABLE A-40 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT NN
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
NN-47	SC	42/42	1-27-61	345 start							
				340 end	Starch	37.8	31.2	34.0	48.2	42.0	45.2 (8-0-8)
NN-48	SC	42/42	2- 1-61	340	Starch	34.2	30.6	32.8	46.0	41.4	43.7 (8-0-8)
NN-49	SC	42/42	2- 1-61	335 start							
				340 end	Starch	36.0	30.6	33.9	42.6	39.6	41.0 (8-0-8)
NN-50	SC	42/42	2- 7-61	340 start							
				345 end	Starch	38.4	32.4	35.3	46.0	40.0	43.4 (8-0-8)
NN-51	SC	42/42	2- 8-61	340	Starch	35.4	31.2	32.9	44.8	35.6	41.0 (8-0-8)
NN-52	SC	42/42	2-13-61	325	Starch	38.4	30.6	32.8	47.2	38.8	43.2 (8-0-8)
NN-53	SC	42/42	2-15-61	250	Starch	33.6	30.0	32.2	41.0	36.4	38.1 (8-0-8)
NN-54	SC	42/42	2-21-61	325	Starch	33.6	30.0	32.1	41.6	36.2	38.6 (8-0-8)
NN-55	SC	42/42	3- 3-61	310 start							
				320 end	Starch	39.0	33.6	36.1	49.6	38.4	41.5 (8-0-8)
NN-56	SC	42/42	3- 3-61	325	Starch	37.8	32.4	35.2	43.4	34.4	39.6 (8-0-8)
NN-57	SC	42/42	3- 6-61	325	Starch	39.0	31.8	36.2	42.4	35.0	39.8 (8-0-8)

TABLE A-41
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT 00
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
00-1	SC	42/42	--	420	Starch	38.4	34.8	36.2	48.6	31.6	42.6 (8-0-8)
00-4	SC	42/42	10-11-60	400	Starch	33.0	27.0	30.3	47.2	35.6	40.6 (8-0-8)
00-5	SC	42/42	10-11-60	500	Starch	33.0	31.2	32.1	47.4	42.2	45.7 (8-0-8)
00-6	SC	42/42	10-18-60	380	Starch	40.2	31.8	36.8	53.4	47.0	49.8 (8-0-8)
00-7	SC	42/42	10-18-60	400	Starch	34.8	27.6	30.1	45.8	39.8	42.8 (8-0-8)
00-8	SC	42/42	10-24-60	350	Starch	37.8	34.8	36.3	57.8	43.8	53.1 (8-0-8)
00-9	SC	42/42	10-25-60	400	Starch	36.0	30.6	34.0	53.4	43.8	49.1 (8-0-8) ^a
00-10	SC	42/42	10-25-60	410	Starch	36.0	30.6	33.2	54.2	30.0	43.2 (8-0-8)
00-11	SC	42/42	10-31-60	410	Starch	32.4	28.8	30.4	47.2	37.6	43.4 (8-0-8)
00-12	SC	42/42	11- 1-60	400	Starch	37.2	29.4	33.9	52.6	45.0	50.4 (8-0-8)
00-15	SC	42/42	11-16-60	320	Starch	39.6	33.0	35.0	54.6	50.2	52.7 (8-0-8)
00-16	SC	42/42	11-16-60	420	Starch	37.8	31.8	34.0	52.8	47.4	49.8 (8-0-8)
00-17	SC	42/42	11-18-60	400	Starch	34.2	25.8	30.6	50.4	30.8	41.5 (8-0-8)
00-18	SC	42/42	11-22-60	370	Starch	36.0	31.2	33.7	47.2	43.4	45.2 (8-0-8)
00-19	SC	42/42	11-25-60	340	Starch	36.6	31.8	34.6	52.4	46.6	49.8 (8-0-8)
00-20	SC	42/42	11-28-60	360	Starch	37.2	31.2	33.8	49.4	40.4	45.6 (8-0-8)
00-21	SC	42/42	11-28-60	400	Starch	36.6	30.6	33.7	52.2	48.0	49.8 (8-0-8)
00-22	SC	42/42	12- 7-60	350	Starch	34.8	31.2	32.6	43.8	38.8	42.2 (8-0-8)
00-23	SC	42/42	12- 7-60	350	Starch	35.4	28.2	31.4	48.0	39.4	42.8 (8-0-8)
00-24	SC	42/42	12- 9-60	350	Starch	32.4	28.2	30.9	49.6	38.4	44.7 (8-0-8)
00-25	SC	42/42	12-12-60	375	Starch	34.8	28.2	32.1	46.0	40.8	42.9 (8-0-8)
00-26	SC	42/42	12-13-60	350	Starch	37.8	32.4	34.6	53.0	45.0	48.7 (8-0-8)
00-27	SC	42/42	12-13-60	375	Starch	35.4	33.0	34.3	46.2	40.0	42.9 (8-0-8)
00-28	SC	42/42	12-15-60	350	Starch	33.0	30.0	31.6	45.2	39.2	43.0 (8-0-8)
00-29	SC	42/42	12-22-60	350	Starch	37.8	32.4	35.8	53.4	48.4	51.3 (8-0-8)
00-30	SC	42/42	12-28-60	350	Starch	36.0	30.6	32.2	44.6	38.2	41.4 (8-0-8)
00-31	SC	42/42	12-28-60	350	Starch	36.0	28.8	32.4	45.6	38.6	41.7 (8-0-8)
00-32	SC	42/42	12-30-60	210	Starch	36.6	34.2	35.2	46.6	39.6	43.8 (8-0-8)
00-33	SC	42/42	1- 4-61	400	Starch	35.4	29.4	33.3	47.2	41.4	45.6 (8-0-8)
00-34	SC	42/42	1- 9-61	330	Starch	39.0	31.2	34.8	51.6	48.0	49.4 (8-0-8)

^aOne or more specimens exhibited fractured flutes.

TABLE A-41 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT 00
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
00-35	SC	42/42	1- 9-61	330	Starch	35.4	31.8	33.2	51.0	44.6	47.0 (8-0-8)
00-36	SC	42/42	1-11-61	350	Starch	34.2	28.8	31.8	49.6	43.6	46.4 (8-0-8)
00-37	SC	42/42	1-12-61	340	Starch	40.2	32.4	35.8	56.0	48.8	52.3 (8-0-8)
00-38	SC	42/42	1-16-61	310	Starch	35.4	31.2	33.2	50.8	41.2	47.6 (8-0-8)
00-39	SC	42/42	1-18-61	350	Starch	39.0	31.8	35.1	51.0	45.6	48.4 (8-0-8)
00-40	SC	42/42	1-18-61	340	Starch	36.6	28.2	32.2	41.6	34.0	37.8 (8-0-8)
00-41	SC	42/42	1-23-61	330	Starch	37.2	34.2	35.6	53.2	42.2	47.1 (8-0-8)
00-42	SC	42/42	1-28-61	400	Starch	37.8	33.0	35.8	47.0	41.4	44.4 (8-0-8)
00-43	SC	42/42	1-31-61	490	Starch	37.2	31.8	34.2	46.2	38.8	43.2 (8-0-8)
00-44	SC	42/42	1-31-61	330	Starch	39.0	31.2	35.8	45.0	38.0	41.1 (8-0-8)
00-45	SC	42/42	2- 1-61	360	Starch	37.2	34.2	36.0	53.4	41.4	46.2 (8-0-8)
00-46	SC	42/42	2- 2-61	450	Starch	41.4	33.0	37.2	54.4	46.2	49.2 (8-0-8)
00-47	SC	42/42	2- 3-61	350	Starch	41.4	33.0	36.8	48.6	38.6	45.8 (8-0-8)
00-48	SC	42/42	2- 6-61	350	Starch	37.2	31.8	35.0	46.6	42.6	43.9 (8-0-8)
00-49	SC	42/42	2- 7-61	450	Starch	40.8	33.0	37.8	54.0	31.8	44.6 (8-0-8)
00-50	SC	42/42	2- 8-61	430	Starch	33.6	30.0	32.4	43.4	37.2	38.9 (8-0-8)
00-51	SC	42/42	2-10-61	400	Starch	37.8	32.4	34.9	51.4	39.2	45.6 (8-0-8)
00-52	SC	42/42	2-14-61	300	Starch	42.0	34.2	37.7	55.4	50.0	53.3 (8-0-8)
00-53	SC	42/42	2-15-61	320	Starch	37.8	33.0	35.6	49.6	47.4	48.5 (8-0-8)
00-55	SC	42/42	2-17-61	350	Starch	42.6	34.2	38.2	54.0	49.0	50.9 (8-0-8)
00-56	SC	42/42	2-21-61	500	Starch	38.4	30.0	35.0	50.4	42.6	45.4 (8-0-8)
00-57	SC	42/42	2-21-61	400	Starch	38.4	33.0	35.5	48.4	45.6	47.2 (8-0-8)
00-58	SC	42/42	2-21-61	420	Starch	38.4	30.0	34.6	49.0	42.0	45.1 (8-0-8)
00-59	SC	42/42	2-27-61	320	Starch	40.8	36.6	38.0	52.8	47.2	50.7 (8-0-8)
00-60	SC	42/42	2-27-61	-	Starch	42.6	36.6	39.4	55.8	51.0	53.4 (8-0-8)

TABLE A-42

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT PP
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
PP-1	SC	42/42	9-20-60	425	Starch	37.8	31.8	33.8	52.0	45.6	48.3 (8-0-8)
PP-2	SC	42/42	9-23-60	450	Starch	33.0	29.4	31.5	41.0	35.4	38.3 (8-0-8)
PP-3	SC	42/42	9-26-60	375	Starch	39.6	33.6	36.9	49.6	42.2	46.7 (8-0-8)
PP-4	SC	42/42	9-29-60	400	Starch	38.4	34.8	36.2	53.2	45.8	49.6 (8-0-8)
PP-5	SC	42/42	9-30-60	400	Starch	40.2	34.8	37.3	52.6	44.4	50.6 (8-0-8)
PP-6	SC	42/42	10- 3-60	410	Starch	39.0	34.8	37.0	50.2	46.4	47.7 (8-0-8)
PP-7	SC	42/42	10- 4-60	430	Starch	40.8	34.2	37.3	50.8	45.4	48.8 (8-0-8)
PP-8	SC	42/42	10- 6-60	425	Starch	39.6	30.0	36.6	53.6	48.2	51.1 (8-0-8)
PP-9	SC	42/42	10-11-60	325	Starch	37.2	33.0	35.4	51.6	39.6	46.6 (8-0-8)
PP-10	SC	42/42	10-12-60	400	Starch	37.8	33.0	35.6	50.4	41.4	46.8 (8-0-8)
PP-11	SC	42/42	10-13-60	420	Starch	37.8	34.2	36.2	49.6	40.0	43.6 (8-0-8)
PP-12	SC	42/42	10-18-60	250	Starch	37.2	34.8	36.2	49.8	46.2	48.0 (8-0-8)
PP-13	SC	42/42	10-21-60	425	Starch	40.8	35.4	37.5	49.8	44.6	47.5 (8-0-8)
PP-14	SC	42/42	10-27-60	350	Starch	37.8	34.2	35.2	53.6	41.2	46.9 (8-0-8)
PP-15	SC	42/42	10-28-60	310	Starch	37.8	33.6	34.8	45.6	41.0	43.6 (8-0-8)
PP-16	SC	42/42	10-31-60	450	Starch	39.0	35.4	36.8	48.0	39.6	44.9 (8-0-8)
PP-17	SC	42/42	11- 3-60	450	Starch	38.4	31.8	35.7	54.0	45.4	49.2 (8-0-8)
PP-18	SC	42/42	11- 8-60	375	Starch	38.4	31.2	34.8	52.4	42.4	48.1 (8-0-8)
PP-19	SC	42/42	11-10-60	460	Starch	38.4	33.6	36.2	54.8	44.8	48.6 (8-0-8)
PP-20	SC	42/42	11-14-60	430	Starch	37.2	33.0	34.3	49.4	45.6	47.4 (8-0-8)
PP-21	SC	42/42	11-17-60	410	Starch	37.8	32.4	34.5	52.2	45.6	48.1 (8-0-8)
PP-22	SC	42/42	11-18-60	340	Starch	37.8	31.2	34.5	53.2	42.6	48.8 (8-0-8)
PP-23	SC	42/42	11-18-60	440	Starch	39.0	33.0	35.0	44.8	39.6	42.0 (8-0-8)
PP-24	SC	42/42	11-29-60	280	Starch	37.8	33.0	35.4	50.0	42.0	45.4 (8-0-8)
PP-25	SC	42/42	12- 1-60	500	Starch	36.0	31.8	33.8	48.2	42.2	45.9 (8-0-8)
PP-26	SC	42/42	12- 2-60	410	Starch	38.4	31.8	34.9	46.8	42.2	44.1 (8-0-8)
PP-27	SC	42/42	12- 3-60	480	Starch	42.0	31.8	35.7	50.4	47.0	48.8 (8-0-8)
PP-28	SC	42/42	12- 5-60	430	Starch	36.0	31.8	34.1	42.4	37.2	40.0 (8-0-8)
PP-29	SC	38/38	12-10-60	470	Starch	37.8	33.6	35.0	44.4	33.0	40.8 (8-0-8)
PP-30	SC	42/42	12-12-60	490	Starch	37.2	32.4	34.7	48.0	39.6	44.3 (8-0-8)

TABLE A-42 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT PP
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
PP-31	SC	42/42	12-14-60	450	Starch	40.8	34.8	37.4	46.0	35.4	40.6 (8-0-8)
PP-32	SC	42/42	12-15-60	420	Starch	41.4	34.8	38.4	50.2	31.0	39.1 (8-0-8)
PP-33	SC	42/42	12-16-60	400	Starch	37.2	33.0	34.8	49.0	44.4	47.0 (8-0-8)
PP-34	SC	42/42	12-19-60	400	Starch	36.0	31.2	33.6	51.4	45.4	48.9 (8-0-8)
PP-35	SC	42/42	12-20-60	410	Starch	36.6	31.2	33.6	48.6	34.0	42.0 (8-0-8)
PP-36	SC	42/42	12-21-60	400	Starch	39.6	32.4	36.0	50.6	42.0	47.3 (8-0-8)
PP-37	SC	42/42	1- 3-61	340	Starch	37.2	32.4	34.6	59.8	35.6	48.5 (8-0-8)
PP-38	SC	42/42	1- 3-61	380	Starch	36.6	28.2	32.6	47.0	38.4	41.9 (8-0-8)
PP-39	SC	42/42	1- 6-61	400	Starch	35.4	30.0	33.2	51.4	43.4	48.7 (8-0-8)
PP-40	SC	42/42	1-11-61	275	Starch	39.0	34.2	37.0	52.4	44.0	48.2 (8-0-8)
PP-41	SC	42/42	1-11-61	400	Starch	39.6	34.2	37.0	51.8	46.0	48.5 (8-0-8)
PP-42	SC	42/42	1-11-61	420	Starch	37.8	32.4	35.6	57.2	44.6	47.8 (8-0-8)
PP-43	SC	42/42	1-12-61	430	Starch	40.8	35.4	37.1	50.6	45.6	48.3 (8-0-8)
PP-44	SC	42/42	1-12-61	410	Starch	37.8	33.0	35.7	52.0	48.2	49.8 (8-0-8)
PP-45	SC	42/42	1-14-61	430	Starch	38.4	34.8	36.5	49.6	41.8	45.8 (8-0-8)
PP-46	SC	42/42	1-17-61	440	Starch	39.0	34.2	36.5	56.4	44.4	51.0 (8-0-8)
PP-47	SC	42/42	1-19-61	450	Starch	37.8	33.0	36.5	48.4	39.6	44.5 (8-0-8)
PP-48	SC	42/42	1-19-61	430	Starch	39.6	35.4	37.1	46.4	41.4	43.7 (8-0-8)
PP-49	SC	42/42	1-25-61	410	Starch	37.8	33.6	35.8	48.8	40.6	45.5 (8-0-8)
PP-50	SC	42/42	1-30-61	420	Starch	39.6	33.6	37.1	53.8	44.2	48.3 (8-0-8)
PP-51	SC	42/42	2- 6-61	400	Starch	40.8	34.2	37.6	53.6	46.4	49.4 (8-0-8)
PP-52	SC	42/42	2- 7-61	200	Starch	39.0	33.6	36.2	53.4	49.2	51.4 (8-0-8)
PP-53	SC	42/42	2- 8-61	450	Starch	36.6	33.6	35.2	49.6	43.8	46.4 (8-0-8)
PP-54	SC	42/42	2- 9-61	425	Starch	40.2	34.8	37.3	47.2	40.4	44.1 (8-0-8)

TABLE A-43

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT QQ
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
QQ-1	SC	42/42	9-26-60	340	Starch	39.6	32.4	35.6	50.8	45.4	47.1 (8-0-8)
QQ-2	SC	42/42	9-30-60	350	Starch	36.6	31.8	34.5	45.4	38.0	41.3 (8-0-8)
QQ-3	SC	42/42	10-12-60	340	Starch	38.4	33.0	35.5	47.6	41.2	45.1 (8-0-8)
QQ-4	SC	42/42	10-12-60	365	Starch	38.4	30.6	34.4	44.8	36.0	41.8 (8-0-8)
QQ-6	SC	42/42	11-27-60	425	Starch	38.4	32.4	35.6	50.2	42.6	46.9 (8-0-8)
QQ-7	SC	38/38	11-29-60	400	Starch	34.8	28.2	31.0	40.0	36.2	38.1 (8-0-8)
QQ-8	SC	33/42	12- 9-60	450	Starch	36.6	33.6	35.4	48.0	34.0	40.4 (8-0-8)
QQ-9	SC	42/42	12-12-60	350	Starch	33.0	30.6	31.9	47.2	36.0	41.4 (8-0-8)
QQ-10	SC	42/42	12-13-60	325	Starch	33.0	30.0	31.5	43.0	35.2	38.0 (8-0-8)
QQ-11	SC	33/42	12-15-60	350	Starch	38.4	35.4	37.4	52.0	45.6	49.5 (8-0-8)
QQ-12	SC	42/42	12-15-60	300	Starch	35.4	29.4	32.9	44.8	42.4	43.8 (8-0-8)
QQ-13	SC	42/42	12-23-60	300	Starch	34.8	30.6	32.0	42.4	37.0	39.0 (8-0-8)
QQ-14	SC	42/42	12-23-60	275	Starch	36.0	32.4	33.6	44.0	39.2	42.4 (8-0-8)
QQ-15	SC	42/42	12-30-60	300	Starch	37.8	30.0	34.4	45.8	38.0	40.9 (8-0-8)
QQ-16	SC	42/42	12-30-60	325	Starch	38.4	30.0	35.2	45.0	37.6	42.2 (8-0-8)
QQ-17	SC	33/42	12-30-60	300	Starch	38.4	34.2	35.8	52.0	47.2	48.8 (8-0-8)
QQ-18	SC	42/42	1- 9-61	325	Starch	39.6	34.2	36.7	51.2	45.8	49.1 (8-0-8)
QQ-19	SC	42/42	1- 9-61	300	Starch	42.0	33.0	36.8	49.2	42.2	45.5 (8-0-8)
QQ-20	SC	42/42	1-10-61	325	Starch	35.4	29.4	33.0	42.2	33.4	39.7 (8-0-8)
QQ-21	SC	42/42	1-10-61	350	Starch	38.4	34.2	36.3	53.4	45.4	48.0 (8-0-8)
QQ-22	SC	42/42	1-10-61	375	Starch	42.6	38.4	40.6	61.8	51.4	57.1 (8-0-8)
QQ-23	SC	42/42	1-11-61	350	Starch	36.6	31.2	34.2	48.4	43.0	45.7 (8-0-8)
QQ-24	SC	42/42	1-18-61	400	Starch	36.6	35.4	36.1	49.2	45.0	46.5 (8-0-8)
QQ-25	SC	42/42	1-18-61	350	Starch	34.8	30.0	32.2	45.2	33.4	40.5 (8-0-8)
QQ-26	SC	33/42	1-19-61	375	Starch	37.2	34.8	35.6	47.6	39.0	43.1 (8-0-8)
QQ-27	SC	42/42	1-20-61	325	Starch	40.8	36.0	38.7	53.4	46.2	50.0 (8-0-8)
QQ-28	SC	33/42	1-27-61	400	Starch	39.0	34.8	37.4	46.4	37.4	42.3 (8-0-8)
QQ-29	SC	42/42	1-30-61	350	Starch	42.6	30.6	37.5	48.6	35.8	43.6 (8-0-8)
QQ-30	SC	42/42	2- 6-61	375	Starch	36.0	31.8	34.4	42.8	39.8	41.4 (8-0-8)
QQ-31	SC	42/42	2- 6-61	400	Starch	36.0	31.2	33.1	46.4	37.6	40.7 (8-0-8)

TABLE A-43 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT QQ
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
QQ-32	SC	42/42	2- 7-61	380	Starch	38.4	34.2	35.9	48.0	45.6	46.9 (8-0-8)
QQ-33	SC	42/42	2- 7-61	340	Starch	40.2	33.0	35.5	49.8	42.6	45.8 (8-0-8)
QQ-34	SC	42/42	2- 8-61	375	Starch	42.6	34.2	37.4	49.2	45.6	47.8 (8-0-8)
QQ-35	SC	42/42	2- 8-61	370	Starch	40.2	35.4	37.4	52.4	47.2	49.6 (8-0-8)
QQ-36	SC	42/42	2- 8-61	400	Starch	36.6	28.8	32.6	43.4	33.6	38.8 (8-0-8)
QQ-37	SC	33/42	2- 9-61	425	Starch	37.8	31.8	35.2	47.0	38.8	43.1 (8-0-8)
QQ-38	SC	42/42	2-10-61	350	Starch	40.2	35.4	37.6	54.4	37.0	44.6 (8-0-8)
QQ-39	SC	42+33/42	2-10-61	350	Starch	36.0	31.2	33.8	44.2	36.2	41.0 (8-0-8)
QQ-40	SC	42/42	2-13-61	325	Starch	36.0	33.0	34.5	41.0	38.0	39.4 (8-0-8)
QQ-41	SC	42/42	2-21-61	385	Starch	40.2	33.0	36.2	48.2	40.0	43.6 (8-0-8)
QQ-42	SC	38/38	2-21-61	390	Starch	42.6	33.0	38.4	46.0	40.0	43.7 (8-0-8)
QQ-43	SC	42/42	2-21-61	400	Starch	42.0	36.6	38.9	49.6	47.8	48.8 (8-0-8)
QQ-44	SC	42/42	2-21-61	425	Starch	37.8	34.8	36.2	47.0	42.4	43.7 (8-0-8)
QQ-45	SC	42/42	2-23-61	340	Starch	36.6	31.8	34.0	45.0	39.0	41.8 (8-0-8)
QQ-46	SC	42/42	2-23-61	350	Starch	39.6	33.6	35.3	46.8	42.2	44.0 (8-0-8)
QQ-47	SC	42/42	2-23-61	330	Starch	40.2	33.6	36.2	46.0	42.2	43.7 (8-0-8)
QQ-48	SC	42/42	2-23-61	360	Starch	40.2	36.0	38.1	45.6	39.0	41.6 (8-0-8)
QQ-49	SC	42/42	2-23-61	335	Starch	37.2	31.8	34.9	42.0	32.0	38.7 (8-0-8)
QQ-50	SC	42/42	2-23-61	400	Starch	39.6	33.6	37.0	42.4	48.0	45.0 (8-0-8)
QQ-51	SC	33/42	2-23-61	375	Starch	39.0	34.8	36.4	45.2	40.0	42.4 (8-0-8)
QQ-52	SC	42/42	2-23-61	400	Starch	37.2	34.2	35.9	42.0	37.8	40.7 (8-0-8)
QQ-53	SC	42/42	2-27-61	380	Starch	39.0	32.4	35.6	42.6	36.8	39.8 (8-0-8)
QQ-54	SC	42/42 start 38/38 end	2-27-61	400	Starch	38.4	33.0	36.3	44.4	36.4	41.4 (8-0-8)

TABLE A-44

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT RR
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq.ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
RR-1	SC	42/42	9-26-60	325	Starch	35.4	31.2	33.6	48.4	42.2	44.7	(8-0-8)
RR-2	SC	42/42	9-29-60	350	Starch	35.4	28.8	32.2	49.4	43.2	47.0	(8-0-8)
RR-3	SC	42/42	10- 5-60	335	Starch	36.6	30.6	33.4	49.8	40.0	44.5	(8-0-8)
RR-4	SC	42/42	10-17-60	350	Starch	34.8	30.0	32.4	46.0	40.6	44.4	(8-0-8)
RR-5	SC	42/42	10- 8-60	325	Starch	35.4	30.6	33.1	48.4	41.6	44.3	(8-0-8)
RR-6	SC	42/42	10-19-60	325	Starch	36.6	30.6	34.2	49.0	41.0	46.0	(8-0-8)
RR-7	SC	42/42	10-20-60	325	Starch	37.8	32.4	35.4	52.4	43.2	46.5	(8-0-8)
RR-8	SC	42/42	10-24-60	350	Starch	35.4	30.0	32.6	51.6	44.8	48.4	(8-0-8)
RR-9	SC	--	10-24-60	325	Starch	35.4	29.4	32.6	46.2	38.4	43.1	(8-0-8)
RR-10	SC	--	10-28-60	400	Starch	37.2	28.2	31.6	48.0	39.4	44.5	(8-0-8)
RR-11	SC	42/42	11- 2-60	330	Starch	36.0	31.8	33.6	46.2	41.0	43.9	(8-0-8)
RR-12	SC	42/42	11- 2-60	325	Starch	34.2	28.8	31.9	48.2	41.6	45.0	(8-0-8)
RR-13	SC	42/42	11- 8-60	350	Starch	36.0	34.2	35.1	49.6	43.8	46.3	(8-0-8)
RR-14	SC	42/42	11- 8-60	335	Starch	39.6	31.8	36.1	54.6	47.8	50.1	(8-0-8)
RR-15	SC	42/42	11-17-60	325	Starch	34.2	28.8	32.0	45.8	39.2	42.2	(8-0-8)
RR-16	SC	42/42	11-18-60	275	Starch	35.4	31.2	33.1	49.2	42.0	45.2	(8-0-8)
RR-17	SC	42/42	11-23-60	340	Starch	34.8	31.8	33.7	50.6	45.0	48.1	(12-6-6)
RR-18	SC	42/42	11-25-60	300	Starch	34.2	30.0	32.3	51.6	46.0	48.0	(8-0-8)
RR-19	SC	42/42	11-30-60	325	Starch	36.6	30.0	32.9	51.4	42.8	47.0	(8-0-8)
RR-20	SC	42/42	12- 2-60	350	Starch	37.8	30.6	32.8	50.0	40.0	44.5	(8-0-8)
RR-21	SC	42/42	12- 7-60	330	Starch	37.2	31.2	34.5	46.2	37.0	42.0	(8-0-8)
RR-22	SC	42/42	12- 9-60	300	Starch	35.4	30.0	32.5	45.2	39.4	42.1	(8-0-8)
RR-23	SC	42/42	12- 9-60	340	Starch	36.0	31.2	33.4	47.8	42.2	44.8	(8-0-8)
RR-24	SC	42/42	12-13-60	360	Starch	36.6	31.8	34.0	52.2	46.0	49.6	(8-0-8)
RR-25	SC	42/42	12-14-60	360	Starch	38.4	33.0	35.9	54.0	48.0	50.8	(8-0-8)
RR-26	SC	42/42	12-14-60	340	Starch	39.6	34.2	35.7	57.2	47.6	50.8	(8-0-8)
RR-27	SC	42/42	12-15-60	325	Starch	37.2	29.4	32.6	53.4	42.0	47.5	(8-0-8)
RR-28	SC	42/42	12-15-60	325	Starch	34.2	30.6	33.1	48.8	38.0	43.1	(8-0-8)
RR-29	SC	42/42	12-19-60	360	Starch	36.6	31.8	33.9	50.6	44.0	46.1	(8-0-8)
RR-30	SC	42/42	12-19-60	360	Starch	34.8	31.2	33.1	50.8	42.0	47.6	(8-0-8)

TABLE A-44 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT RR
(C-Flute)Page A-84
Report OneFourdrinier Kraft Board Institute, Inc.
Project 1108-285

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corru- gated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
RR-31	SC	42/42	12-19-60	340	Starch	32.4	28.8	30.6	48.0	42.4	46.5	(8-0-8)
RR-32	SC	42/42	12-19-60	300	Starch	34.2	30.0	32.4	52.6	43.0	48.4	(8-0-8)
RR-33	SC	42/42	12-19-60	330	Starch	34.8	31.8	33.4	50.8	38.8	44.8	(8-0-8)
RR-34	SC	42/42	12-20-60	310	Starch	37.2	31.8	34.1	48.8	42.0	45.6	(8-0-8)
RR-35	SC	42/42	12-21-60	340	Starch	37.8	31.2	34.0	50.0	43.0	47.8	(8-0-8)
RR-36	SC	42/42	12-21-60	340	Starch	33.6	30.0	32.3	48.0	41.4	45.2	(8-0-8)
RR-37	SC	42/42	1- 4-61	340	Starch	37.2	30.6	34.4	48.4	40.6	44.8	(8-0-8)
RR-38	SC	42/42	1- 5-61	345	Starch	33.0	29.4	31.1	47.4	42.2	44.0	(8-0-8)
RR-39	SC	42/42	1- 5-61	340	Starch	34.2	29.4	31.7	47.0	41.6	43.8	(13-5-8)
RR-40	SC	42/42	1-10-61	345	Starch	34.8	31.8	33.8	52.0	44.8	47.4	(8-0-8)
RR-41	SC	42/42	1-11-61	330	Starch	36.6	31.8	33.6	48.2	40.8	45.5	(8-0-8)
RR-42	SC	42/42	1-18-61	345	Starch	32.4	27.6	30.8	50.4	40.4	46.0	(8-0-8)
RR-43	SC	42/42	1-19-61	365	Starch	34.8	29.4	32.4	47.6	37.6	42.7	(8-0-8)
RR-44	SC	42/42	1-25-61	345	Starch	34.8	31.8	33.4	48.6	35.8	44.0	(8-0-8)
RR-45	SC	42/42	1-25-61	330	Starch	40.8	34.8	38.3	59.8	47.0	51.5	(8-0-8)
RR-46	SC	42/42	2- 1-61	335	Starch	37.2	30.6	33.8	50.6	43.6	47.6	(8-0-8)
RR-47	SC	42/42	2- 1-61	320	Starch	39.6	32.4	34.6	50.6	46.2	48.9	(8-0-8)
RR-48	SC	42/42	2- 8-61	340	Starch	34.8	30.0	33.0	43.2	36.8	40.0	(8-0-8)
RR-49	SC	42/42	2- 8-61	325	Starch	33.0	30.6	32.0	45.4	37.6	43.2	(8-0-8)
RR-50	SC	42/42	2- 9-61	330	Starch	34.8	31.2	33.4	46.4	42.0	44.3	(8-0-8)
RR-51	SC	42/42	2-17-61	330	Starch	36.6	28.8	32.6	44.8	37.6	42.1	(8-0-8)
RR-52	SC	42/42	2-18-61	420	Starch	34.8	29.4	32.2	44.8	40.2	42.3	(8-0-8)
RR-53	SC	42/42	2-23-61	330	Starch	36.0	31.8	34.4	49.0	40.4	44.7	(8-0-8)
RR-54	SC	42/42	2-23-61	345	Starch	34.8	30.0	33.0	43.4	36.0	39.8	(8-0-8)

TABLE A-45

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT SS
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
SS-5	SC	42/42	9-29-60	270	Starch	36.0	31.8	34.4	32.4	25.2	28.9	(8-0-8)
SS-10	SC	42/42	10-21-60	290	Starch	39.0	31.8	36.9	36.6	30.0	32.4	(8-0-8)
SS-15	SC	42/42	11-2-60	220	Starch	40.2	34.8	37.1	37.6	31.6	38.2	(8-0-8)
SS-20	SC	42/42	11-23-60	260	Starch	37.2	31.2	34.4	33.4	25.6	30.5	(8-0-8)
SS-21	SC	42/42	11-22-60	240	Starch	36.6	31.2	33.1	34.4	20.6	27.5	(8-0-8)
SS-25	SC	42/42	12-9-60	270	Starch	37.2	30.6	32.9	34.6	29.0	31.0	(8-0-8)
SS-28	SC	42/42	12-13-60	230	Starch	37.2	34.2	36.0	32.0	24.0	29.7	(8-0-8)
SS-29	SC	42/42	12-14-60	200	Starch	34.2	31.2	32.6	30.6	27.2	28.6	(8-0-8)
SS-32	SC	42/42	12-21-60	280	Starch	37.8	33.0	35.8	33.4	27.6	30.7	(8-0-8)
SS-34	SC	42/42	12-27-60	-	Starch	38.4	33.6	36.8	38.0	28.2	34.8	(8-0-8)
SS-36	SC	47/47	12-28-60	230	Starch	35.4	31.8	33.7	29.4	24.0	26.7	(8-0-8)
SS-37	SC	42/42	12-28-60	230	Starch	39.6	35.4	37.2	33.2	27.0	30.7	(8-0-8)
SS-38	SC	42/42	1-3-61	285	Starch	37.2	34.2	35.7	33.8	28.2	31.2	(8-0-8)
SS-40	SC	42/42	1-5-61	280	Starch	34.2	32.4	33.2	32.6	28.0	30.4	(8-0-8)
SS-42	SC	42/42	1-6-61	240	Starch	39.6	36.0	38.2	37.0	32.0	34.0	(8-0-8)
SS-43	SC	42/42	1-9-61	160	Starch	34.8	30.6	32.9	31.4	27.6	29.2	(8-0-8)
SS-45	SC	42/42	1-10-61	240	Starch	38.4	33.0	35.8	34.0	28.8	31.3	(8-0-8)
SS-48	SC	42/42	1-16-61	270	Starch	39.0	34.8	36.8	33.8	30.8	32.6	(8-0-8)
SS-49	SC	42/42	1-19-61	260	Starch	39.6	34.2	36.7	35.6	31.0	33.3	(8-0-8)
SS-51	SC	42/42	1-20-61	280	Starch	37.2	31.8	35.1	33.4	27.8	31.0	(8-0-8)
SS-52	SC	42/42	1-23-61	250	Starch	43.2	37.2	40.0	37.4	33.4	35.4	(8-0-8)
SS-54	SC	42/42	1-24-61	280	Starch	38.4	33.6	36.1	35.4	26.4	31.5	(8-0-8)
SS-56	SC	42/42	1-31-61	280	Starch	40.2	37.2	38.1	35.0	31.6	33.2	(8-0-8)
SS-58	SC	42/42	2-6-61	260	Starch	38.4	35.4	36.9	35.2	27.8	32.9	(8-0-8)
SS-59	SC	42/42	2-6-61	260	Starch	37.2	34.2	36.0	31.8	29.2	31.0	(8-0-8)
SS-61	SC	42/42	2-7-61	260	Starch	37.2	33.0	35.3	31.4	28.2	30.4	(8-0-8)
SS-63	SC	42/42	2-13-61	250	Starch	41.4	35.4	38.7	35.4	31.0	33.6	(8-0-8)
SS-64	SC	42/42	2-13-61	250	Starch	37.2	34.2	35.8	33.2	30.2	31.9	(8-0-8)
SS-68	SC	42/42	2-22-61	250	Starch	38.4	34.2	36.4	33.6	30.0	31.4	(8-0-8)
SS-70	SC	42/42	2-23-61	250	Starch	39.6	35.4	37.8	35.8	31.8	33.9	(8-0-8)

TABLE A-45 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT SS
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.			
						Max.	Min.	Av.	Max.	Min.	Av.	
SS-72	SC	42/42	3- 1-61	240	Starch	42.0	38.4	40.0	34.6	31.0	33.4	(8-0-8)
SS-73	SC	42/42	3- 2-61	250	Starch	41.4	36.0	38.7	32.4	30.0	31.2	(8-0-8)
SS-76	SC	42/42	3- 7-61	210	Starch	42.0	36.6	38.2	33.2	30.8	31.4	(8-0-8)
SS-77	SC	42/42	2- 8-61	230	Starch	42.0	37.8	39.2	37.2	31.6	34.1	(8-0-8)
SS-79	SC	42/42	3-13-61	240	Starch	41.4	35.4	37.1	33.6	29.8	31.4	(8-0-8)
SS-82	SC	42/42	3-16-61	240	Starch	39.0	36.0	37.5	38.4	34.4	35.6	(8-0-8)
SS-83	SC	42/42	3-23-61	270	Starch	42.0	35.4	38.0	32.6	28.6	31.2	(8-0-8)
SS-84	SC	42/42	3-21-61	280	Starch	39.0	37.2	38.0	34.2	31.0	32.7	(8-0-8)
SS-85	SC	42/42	3-20-61	260	Starch	37.2	35.4	36.0	31.8	28.6	30.6	(8-0-8)
SS-86	SC	42/42	3-22-61	260	Starch	40.2	33.6	37.8	35.8	31.2	33.4	(8-0-8)
SS-87	SC	42/42	3-20-61	280	Starch	39.6	36.0	37.6	33.4	30.4	32.0	(8-0-8)
SS-88	SC	42/42	3-23-61	260	Starch	39.0	34.8	36.3	37.0	30.6	34.4	(8-0-8)
SS-89	SC	42/42	3-27-61	240	Starch	40.8	37.8	38.8	33.8	30.4	32.4	(8-0-8)
SS-91	SC	42/42	3-29-61	260	Starch	37.2	33.0	35.3	34.2	30.4	32.4	(8-0-8)

TABLE A-46

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT TT
(A-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
TT-1	SC	38/38	9-30-60	320	Starch	43.2	33.6	37.4	40.6	36.8	39.0 (8-0-8)
TT-3	SC	42/42	10- 3-60	312	Starch	43.2	33.0	38.0	41.0	37.0	38.6 (8-0-8)
TT-5	SC	42/42	10-10-60	310	Starch	44.4	35.4	39.2	34.4	31.0	32.4 (8-0-8)
TT-6	SC	42/42	10-13-60	315	Starch	43.8	35.4	39.2	35.8	31.0	33.6 (8-0-8)
TT-7	SC	42/42	10-19-60	270	Starch	44.4	36.0	39.2	45.4	39.0	42.4 (8-0-8)
TT-8	SC	42/42	10-25-60	300	Starch	45.6	36.6	41.0	43.4	38.0	39.9 (8-0-8)
TT-9	SC	42/42	11- 3-60	280	Starch	43.2	37.8	40.5	38.8	35.4	36.6 (8-0-8)
TT-10	SC	42/42	11- 9-60	295	Starch	42.0	34.8	37.9	29.2	25.0	26.8 (8-0-8)
TT-11	SC	42/42	11-15-60	275	Starch	40.2	34.8	37.5	39.4	32.4	36.8 (8-0-8)
TT-12	SC	42/42	11-18-60	295	Starch	38.4	30.0	35.0	34.0	30.8	32.6 (8-0-8)
TT-13	SC	42/42	11-22-60	280	Starch	43.2	36.0	38.3	37.2	33.6	36.0 (8-0-8)
TT-14	SC	42/42	11-25-60	300	Starch	37.8	31.8	35.2	36.0	31.6	33.7 (8-0-8)
TT-15	SC	42/42	12-13-60	300	Starch	39.0	34.8	36.8	36.8	33.0	34.4 (8-0-8)

TABLE A--47

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT UU
(B-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Board Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
UU-1 ^a	SC	42/42	9-29-60	300	Starch	37.8	33.0	35.7	66.4	59.0	63.0 (16-13-3)
UU-2 ^a	SC	42/42	10-17-60	350	Starch	38.4	35.4	37.1	65.0	53.8	62.5 (14-11-3)
UU-3	SC	42/42	11-23-60	300	Starch	33.0	28.2	30.6	55.8	50.2	53.7 (8-0-8)
UU-4	SC	42/42	11-23-60	325	Starch	36.6	32.4	34.2	59.6	48.0	53.5 (8-0-8)
UU-5	SC	42/42	11-28-60	350	Starch	34.2	31.2	32.7	59.6	51.6	54.8 (8-0-8)
UU-6	SC	42/42	11-30-60	325	Starch	37.8	33.0	34.9	60.8	53.0	57.0 (8-0-8)
UU-7	SC	42/42	12- 6-60	350	Starch	33.6	31.2	32.4	69.6	57.4	61.6 (8-0-8)

^a These samples were not used in the analyses because of excessive "rolls."

TABLE A-48

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT VV
(C-Flute)

Sample No.	Type of Medium	Liner Wt. S.F./D.F., lb./M sq. ft.	Date	Corrugator Speed, f.p.m.	Adhesive	Concorna Flat Crush, p.s.i.	Combined Board Flat Crush, p.s.i.
						Av.	Max. Min. Av.
VV-1	SC	42/42	9- 6-60	180 start 360 end	Starch	46.8	48.4 (8-0-8) 42.6 (8-0-8) 54.0 (8-0-8) 54.0 (8-0-8) 53.6 (8-0-8) 50.4 (8-0-8) 52.0 (8-0-8) 47.6 (8-0-8) 48.2 (8-0-8) 48.4 (8-0-8)
VV-2	SC	42/42	9-19-60	300	Starch	39.0	52.0 (8-0-8) 52.0 (8-0-8) 50.4 (8-0-8) 47.6 (8-0-8) 48.2 (8-0-8) 48.4 (8-0-8)
VV-3	SC	42/42	9-14-60	340	Starch	40.8	40.8 (8-0-8) 37.4 (8-0-8) 52.0 (8-0-8) 47.6 (8-0-8) 48.2 (8-0-8) 48.4 (8-0-8)
VV-4	SC	33/42	9-16-60	450	Starch	36.6	51.6 (8-0-8) 46.6 (8-0-8) 48.2 (8-0-8) 48.4 (8-0-8)
VV-5	SC	42/42	9-21-60	360	Starch	38.4	50.4 (8-0-8) 46.4 (8-0-8) 48.4 (8-0-8)
VV-6	SC	33/42	9-27-60	470	Starch	40.8	43.6 (8-0-8) 48.7 (8-0-8)
VV-7	SC	42/42	9-27-60	380	Starch	42.0	48.0 (8-0-8) 41.6 (8-0-8) 45.3 (8-0-8) 48.3 (8-0-8) 46.0 (8-0-8) 47.0 (8-0-8) 49.7 (8-0-8)
VV-8	SC	42/42	9-28-60	350	Starch	40.8	50.2 (8-0-8) 46.0 (8-0-8) 48.3 (8-0-8) 48.6 (8-0-8) 45.6 (8-0-8) 49.7 (8-0-8)
VV-9	SC	42/42	9-29-60	350	Starch	36.6	50.4 (8-0-8) 46.0 (8-0-8) 48.6 (8-0-8) 45.6 (8-0-8) 50.9 (8-0-8) 49.7 (8-0-8)
VV-10	SC	42/42	10- 6-60	380	Starch	37.2	49.4 (8-0-8) 40.0 (8-0-8) 45.6 (8-0-8) 50.9 (8-0-8) 49.7 (8-0-8)
VV-11	SC	33/42	10-10-60	400	Starch	42.0	53.6 (8-0-8) 48.6 (8-0-8) 47.0 (8-0-8) 51.2 (8-0-8) 51.2 (8-0-8)
VV-12	SC	42/42	10-11-60	400	Starch	43.8	53.2 (8-0-8) 47.0 (8-0-8) 51.2 (8-0-8) 51.2 (8-0-8)
VV-13	SC	42/42	10-17-60	380	Starch	42.6	48.8 (8-0-8) 34.8 (8-0-8) 38.8 (8-0-8) 56.4 (8-0-8) 43.6 (8-0-8) 49.1 (8-0-8)
VV-14	SC	42/42	10-17-60	300	Starch	40.8	51.0 (8-0-8) 45.6 (8-0-8) 48.4 (8-0-8) 49.1 (8-0-8)
VV-15	SC	33/42	10-27-60	380	Starch	36.6	34.0 (8-0-8) 46.0 (8-0-8) 37.6 (8-0-8) 42.4 (8-0-8) 45.1 (8-0-8) 49.5 (8-0-8)
VV-16	SC	42/33	10-27-60	300	Starch	39.6	31.8 (8-0-8) 36.4 (8-0-8) 48.0 (8-0-8) 38.8 (8-0-8) 45.1 (8-0-8) 49.5 (8-0-8)
VV-17	SC	38/42	10-26-60	410	Starch	39.0	33.6 (8-0-8) 37.4 (8-0-8) 51.2 (8-0-8) 44.8 (8-0-8) 49.5 (8-0-8)
VV-18	SC	42/42	10-31-60	420	Starch	42.6	35.4 (8-0-8) 38.3 (8-0-8) 53.2 (8-0-8) 47.6 (8-0-8) 51.2 (8-0-8)
VV-19	SC	38/38	11- 7-60	345	Starch	36.6	34.2 (8-0-8) 35.5 (8-0-8) 50.6 (8-0-8) 44.0 (8-0-8) 48.1 (8-0-8)
VV-20	SC	42/42	11- 9-60	340	Starch	46.8	39.0 (8-0-8) 42.0 (8-0-8) 54.6 (8-0-8) 46.0 (8-0-8) 50.5 (8-0-8)
VV-21	SC	42/42	11-11-60	340	Starch	37.8	35.4 (8-0-8) 36.7 (8-0-8) 48.4 (8-0-8) 41.8 (8-0-8) 46.0 (8-0-8) 47.0 (8-0-8)
VV-22	SC	33/42	11-18-60	400	Starch	36.0	33.0 (8-0-8) 34.3 (8-0-8) 49.0 (8-0-8) 42.6 (8-0-8) 46.0 (8-0-8) 50.0 (8-0-8)
VV-23	SC	33/42	11-18-60	460	Starch	38.4	32.4 (8-0-8) 35.2 (8-0-8) 48.2 (8-0-8) 48.6 (8-0-8) 46.0 (8-0-8) 50.0 (8-0-8)
VV-24	SC	42/42	11-21-60	380	Starch	44.4	37.8 (8-0-8) 41.8 (8-0-8) 52.8 (8-0-8) 48.6 (8-0-8) 48.6 (8-0-8) 50.0 (8-0-8)
VV-25	SC	33/42	11-23-60	300	Starch	42.0	36.0 (8-0-8) 38.6 (8-0-8) 54.2 (8-0-8) 48.6 (8-0-8) 50.4 (8-0-8)
VV-26	SC	42/42	11-28-60	380	Starch	41.4	37.2 (8-0-8) 39.5 (8-0-8) 54.4 (8-0-8) 42.6 (8-0-8) 48.3 (8-0-8)
VV-27	SC	42/42	11-30-60	340	Starch	40.2	33.6 (8-0-8) 37.7 (8-0-8) 49.4 (8-0-8) 42.4 (8-0-8) 46.7 (8-0-8)
VV-28	SC	42/42	12- 5-60	320	Starch	36.0	31.8 (8-0-8) 34.1 (8-0-8) 46.8 (8-0-8) 41.2 (8-0-8) 43.8 (8-0-8)
VV-29	SC	42/42	12-12-60	360	Starch	39.0	30.6 (8-0-8) 35.8 (8-0-8) 46.4 (8-0-8) 43.6 (8-0-8) 44.6 (8-0-8)
VV-30	SC	42/42	12-16-60	400	Starch	42.6	37.2 (8-0-8) 39.8 (8-0-8) 48.4 (8-0-8) 42.4 (8-0-8) 46.6 (8-0-8)

TABLE A-48 (Continued)
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT VV
(C-Flute)

Sample	Type of	Liner Wt.,	Date	Corrugator	Concra Flat	Combined Board Flat	No.	Medium	lb./M sq. ft.	Gated	F.P.m.	Adhesive	Max.	Min.	Av.
31	SC	42/42	12-19-60	400	Starch	36.0	32.4	34.7	47.2	41.0	44.0	(8-0-8)	44.0	42.0	44.8
32	SC	42/42	12-20-60	320	Starch	37.2	32.4	34.9	48.2	42.0	44.8	(8-0-8)	44.8	42.2	44.6
33	SC	42/42	12-27-60	350	Starch	38.4	32.4	35.0	49.4	42.2	44.6	(8-0-8)	44.6	42.2	44.6
34	SC	33/42	12-28-60	300	Starch	45.6	35.4	38.6	49.0	43.8	45.8	(8-0-8)	45.8	42.2	44.4
35	SC	42/42	12-28-60	360	Starch	37.2	32.4	34.6	47.2	42.4	44.4	(8-0-8)	44.4	42.4	44.4
36	SC	42/42	12-28-60	340	Starch	38.4	31.2	33.4	47.4	41.0	44.4	(8-0-8)	44.4	42.4	44.4
37	SC	33/42	1-8-61	380	Constararch	42.0	36.6	38.9	53.6	44.6	47.7	(8-0-8)	47.7	44.6	44.6
38	SC	42/42	1-20-61	380	Sorghum	45.6	37.2	42.4	53.2	45.6	50.1	(8-0-8)	50.1	45.6	45.6
39	SC	42/42	1-20-61	380	Constararch	45.6	41.4	43.7	57.6	45.8	51.1	(8-0-8)	51.1	45.8	45.8
40	SC	42/42	1-24-61	360	Sorghum	43.2	36.0	40.4	49.8	42.2	46.1	(8-0-8)	46.1	42.2	42.2
41	SC	42/42	1-24-61	360	Constararch	42.0	34.8	38.9	46.2	34.0	40.7	(8-0-8)	40.7	34.0	34.0
42	SC	42/42	1-24-61	360	Sorghum	42.6	37.2	40.0	52.8	44.0	48.6	(8-0-8)	48.6	44.0	44.0
43	SC	33/42	1-27-61	320	Constararch	37.8	33.0	35.8	50.4	43.8	46.4	(8-0-8)	46.4	43.8	43.8
44	SC	42/42	1-27-61	320	Sorghum	37.2	33.0	35.4	46.6	42.0	44.0	(8-0-8)	44.0	42.0	42.0
45	SC	42/42	1-27-61	320	Constararch	40.8	35.4	38.3	51.2	44.6	48.7	(8-0-8)	48.7	44.6	44.6
46	SC	33/42	2-20-61	320	Constararch	37.8	33.0	36.1	45.6	42.0	43.9	(8-0-8)	43.9	42.0	42.0
47	SC	42/42	2-23-61	320	Sorghum	36.6	33.6	35.3	47.4	42.6	44.7	(8-0-8)	44.7	42.6	42.6
48	SC	33/42	2-23-61	400	Constararch	43.8	39.0	41.0	50.6	42.2	47.3	(8-0-8)	47.3	42.2	42.2
49	SC	42/42	2-24-61	320	Sorghum	37.2	31.2	34.6	47.2	42.2	43.9	(8-0-8)	43.9	42.2	42.2
50	SC	42/42	2-27-61	320	Constararch	37.8	34.8	36.4	48.0	42.8	45.5	(8-0-8)	45.5	42.8	42.8

TABLE A-48 (Continued)
CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT VV
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date	Corrugator Speed, f.p.m.	Adhesive	Concra Flat Crush, p.s.i. Av.	Combined Board Flat Crush, p.s.i. Av.					
VV-51	SC	42/42	2-27-61	300	Sorghum	38.4	34.8	37.2	52.0	45.2	48.0	(8-0-8)
VV-52	SC	42/42	2-28-61	320	Sorghum	36.0	32.4	34.8	48.2	42.8	45.8	(8-0-8)
VV-53	SC	33/42	2-28-61	300	Sorghum	40.2	33.0	36.6	50.0	44.8	47.6	(8-0-8)
VV-54	SC	42/42	2-28-61	360	Sorghum	37.2	33.0	35.0	47.4	43.0	45.5	(8-0-8)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT WW
(C-Flute)

TABLE A-49

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.	Combined Board Flat Crush, p.s.i.
						Max. Min. Av.	Max. Min. Av.
WW-1	SC	38/38	9-1-60	350	Starch	43.2 33.6 37.6	53.4 46.4 50.8
WW-2	SC	42/42	9-2-60	300	Starch	37.8 35.4 36.6	47.6 44.6 47.6
WW-3	SC	38/38	9-9-60	350	Starch	42.0 37.2 39.2	54.2 48.2 51.6
WW-4	SC	38/38	9-9-60	375	Starch	43.8 37.2 40.3	54.8 48.4 51.8
WW-5	SC	42/42	9-14-60	350	Starch	38.4 32.4 35.0	52.8 34.2 47.0
WW-6	SC	38/38	9-15-60	385	Starch	43.2 34.2 38.7	57.8 50.0 55.6
WW-7	SC	42/42	9-22-60	340	Starch	39.6 36.0 38.0	49.2 46.0 47.8
WW-8	SC	38/38	9-23-60	365	Starch	40.2 33.0 35.8	51.6 45.0 48.0
WW-9	SC	42/42	9-28-60	375	Starch	43.2 36.6 38.2	53.0 46.6 49.6
WW-10	SC	38/38	10-6-60	350	Starch	39.6 33.6 36.2	55.0 44.2 48.2
WW-11	SC	42/42	10-7-60	355	Starch	40.8 34.2 37.8	53.6 46.4 49.5
WW-12	SC	38/38	10-12-60	370	Starch	43.2 38.4 40.7	56.0 45.4 51.2
WW-13	SC	38/38	10-13-60	365	Starch	46.2 38.4 40.3	52.8 48.2 50.4
WW-14	SC	38/38	10-19-60	340	Starch	42.6 34.8 38.7	55.0 50.4 52.7
WW-15	SC	38/38	10-20-60	370	Starch	41.4 33.6 38.1	52.2 47.0 49.8
WW-16	SC	42/42	10-27-60	325	Starch	42.0 38.4 40.2	52.8 45.8 50.8
WW-17	SC	42/42	10-27-60	360	Starch	43.8 37.8 40.9	52.8 48.2 50.4
WW-18	SC	38/38	10-27-60	345	Starch	37.2 34.8 35.8	48.0 42.4 44.8
WW-19	SC	38/38	11-1-60	335	Starch	39.0 30.0 35.0	51.4 41.4 45.9
WW-20	SC	38/38	11-1-60	350	Starch	37.8 31.2 33.7	49.6 37.4 45.1
WW-21	SC	38/38	11-9-60	355	Starch	39.0 34.8 36.8	54.0 46.0 50.7
WW-23	SC	33/42	11-15-60	375	Starch	40.2 35.4 37.6	50.2 44.2 47.1
WW-24	SC	38/38	11-17-60	365	Starch	40.2 34.2 36.9	52.2 47.2 49.1
WW-25	SC	38/38	11-22-60	335	Starch	33.6 30.0 32.3	43.6 41.0 42.1
WW-26	SC	38/38	11-22-60	325	Starch	33.6 30.6 32.0	45.4 41.6 43.2
WW-27	SC	42/42	12-1-60	340	Starch	40.2 31.8 35.8	49.8 44.0 47.2
WW-28	SC	42/42	12-2-60	350	Starch	36.6 32.4 34.6	45.2 40.8 42.7
WW-29	SC	38/38	12-6-60	365	Starch	36.0 31.8 34.4	47.0 39.0 43.2
WW-30	SC	38/38	12-8-60	355	Starch	37.8 34.2 35.7	52.6 43.8 47.6
WW-31	SC	42/42	12-14-60	365	Starch	34.2 31.2 32.8	47.6 36.4 43.2

TABLE A-49 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT WW
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
WW-32	SC	42/42	12-15-60	362	Starch	36.0	32.4	33.8	47.0	42.4	45.3 (8-0-8)
WW-33	SC	42/42	12-20-60	370	Starch	42.0	37.2	39.5	54.0	41.8	48.8 (8-0-8)
WW-34	SC	42/42	12-20-60	362	Starch	37.8	33.6	35.6	50.0	42.0	47.5 (8-0-8)
WW-35	SC	38/38	12-21-60	370	Starch	37.2	33.6	35.1	49.6	44.0	46.6 (8-0-8)
WW-36	SC	38/38	12-28-60	345	Starch	39.0	32.4	35.7	49.0	40.0	45.8 (8-0-8)
WW-37	SC	38/38	12-30-60	345	Starch	36.6	32.4	34.1	46.0	40.0	43.4 (8-0-8)
WW-38	SC	42/42	12-31-60	345	Starch	34.8	31.8	33.2	48.0	41.8	45.6 (8-0-8)
WW-39	SC	38/38	1- 7-61	335	Starch	37.2	30.6	34.9	52.4	44.0	47.0 (8-0-8)
WW-40	SC	38/38	1- 7-61	385	Starch	36.0	33.0	35.0	48.8	42.0	45.7 (8-0-8)
WW-41	SC	42/42	1-12-61	365	Starch	38.4	33.6	35.4	50.2	47.2	48.8 (8-0-8)
WW-42	SC	38/38	1-14-61	375	Starch	36.6	31.2	33.9	44.6	41.4	43.2 (8-0-8)
WW-43	SC	42/42	1-19-61	365	Starch	41.4	36.0	38.3	47.8	44.6	46.1 (8-0-8)
WW-44	SC	42/42	1-21-61	360	Starch	37.8	31.8	34.8	50.8	44.0	47.1 (8-0-8)
WW-45	SC	38/38	1-25-61	345	Starch	40.2	34.8	37.2	54.8	40.4	48.6 (8-0-8)
WW-46	SC	38/38	1-26-61	350	Starch	39.6	35.4	37.6	49.4	42.6	45.5 (8-0-8)
WW-47	SC	42/42	1-27-61	345	Starch	38.4	34.2	36.6	48.8	43.8	46.4 (8-0-8)
WW-48	SC	38/38	2- 3-61	335	Starch	43.8	36.0	38.8	46.4	42.8	45.3 (8-0-8)
WW-49	SC	38/38	2- 3-61	362	Starch	39.0	34.8	36.8	49.2	43.4	45.7 (8-0-8)
WW-50	SC	38/38	2- 7-61	350	Starch	43.2	37.2	39.8	56.4	46.0	52.2 (8-0-8)
WW-51	SC	42/42	2- 8-61	365	Starch	39.0	34.2	35.8	47.4	42.0	43.9 (8-0-8)
WW-52	SC	38/38	2- 9-61	350	Starch	40.8	35.4	37.7	48.6	42.6	45.6 (8-0-8)
WW-53	SC	42/42	2-14-61	365	Starch	40.2	34.8	36.8	48.0	41.6	43.8 (8-0-8)
WW-54	SC	42/42	2-14-61	360	Starch	38.4	33.0	36.6	50.4	41.2	45.5 (8-0-8)
WW-55	SC	38/38	2-16-61	367	Starch	37.2	32.4	34.2	48.6	41.4	44.2 (8-0-8)
WW-56	SC	42/42	2-17-61	369	Starch	37.8	32.4	35.8	49.2	43.6	46.1 (8-0-8)
WW-57	SC	42/42	2-18-61	370	Starch	39.6	37.2	38.1	49.8	45.2	46.6 (8-0-8)
WW-58	SC	42/42	2-25-61	345	Starch	37.8	31.2	35.2	46.8	41.8	44.0 (8-0-8)

TABLE A-50

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT XX
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
XX-1	SC	42/42	9- 8-60	350	Starch	36.0	29.4	32.6	45.4	38.4	42.6 (8-0-8)
XX-2	SC	42/42	9-12-60	320	Starch	35.4	31.2	33.6	46.0	40.0	43.4 (8-0-8)
XX-3	SC	42/42	9-20-60	350	Starch	35.4	31.8	33.7	44.4	40.0	42.7 (8-0-8)
XX-4	SC	42/42	9-26-60	380	Starch	34.2	31.2	33.2	44.8	40.2	41.9 (8-0-8)
XX-6	SC	42/42	9-30-60	380	Starch	34.2	30.6	32.6	45.4	39.4	41.7 (8-0-8)
XX-7	SC	42/42	10- 6-60	400	Starch	36.0	31.2	33.9	42.2	36.6	40.2 (8-0-8)
XX-8	SC	42/38	10-19-60	350	Starch	34.2	31.2	33.1	42.4	37.8	40.2 (8-0-8)
XX-9	SC	42/42	10-20-60	360	Starch	35.4	30.6	32.9	45.0	40.0	42.1 (10-2-8)
XX-11	SC	42/42	10-27-60	420	Starch	37.8	34.2	35.5	49.4	46.0	47.2 (8-0-8)
XX-12	SC	42/42	11- 1-60	320	Starch	40.2	32.4	36.4	47.4	39.2	45.0 (8-0-8)
XX-13	SC	42/42	11- 1-60	400	Starch	41.4	34.8	38.8	50.2	46.0	47.8 (8-0-8)
XX-14	SC	42/42	11- 2-60	350	Starch	37.8	33.0	35.6	51.6	44.2	47.8 (8-0-8)
XX-16	SC	42/42	11- 7-60	370	Starch	37.2	32.4	34.2	51.6	45.6	48.0 (8-0-8)
XX-17	SC	42/42	11-10-60	370	Starch	34.8	28.2	31.2	46.2	35.2	42.3 (8-0-8)
XX-18	SC	42/42	11-11-60	200	Starch	37.8	31.8	35.0	52.6	47.6	50.0 (8-0-8)
XX-19	SC	42/42	11-16-60	370	Starch	42.0	34.2	38.7	47.2	41.2	45.0 (8-0-8)
XX-22	SC	42/42	11-22-60	350	Starch	36.0	33.6	34.8	42.8	39.4	41.2 (8-0-8)
XX-23	SC	42/42	12- 6-60	320	Starch	34.8	31.2	33.0	46.8	37.2	41.7 (8-0-8)
XX-24	SC	42/42	12- 7-60	370	Starch	41.4	35.4	37.3	48.6	44.2	45.9 (8-0-8)
XX-26	SC	42/42	12-12-60	350	Starch	33.0	30.0	31.3	46.0	37.0	42.4 (8-0-8)
XX-27	SC	42/42	12-13-60	330	Starch	34.8	32.4	33.3	47.6	37.4	42.1 (8-0-8)
XX-30	SC	42/42	12-14-60	310	Starch	34.2	30.0	32.2	42.6	39.2	40.6 (8-0-8)
XX-31	SC	42/42	12-19-60	380	Starch	37.2	31.8	34.3	43.4	37.0	40.3 (8-0-8)
XX-33	SC	42/42	12-22-60	400	Starch	34.2	31.2	32.6	43.2	37.6	40.5 (8-0-8)
XX-35	SC	38/42	12-28-60	350	Starch	37.8	33.6	35.5	44.4	37.8	41.5 (8-0-8)
XX-39	SC	42/42	1- 4-61	360	Starch	36.6	31.8	33.8	45.6	36.0	41.0 (8-0-8)
XX-41	SC	42/38	1- 5-61	320	Starch	38.4	34.2	36.9	50.4	45.6	48.4 (8-0-8)
XX-44	SC	42/42	1- 9-61	380	Starch	39.6	35.4	36.9	42.4	37.8	40.4 (8-0-8)
XX-46	SC	42/42	1-10-61	380	Starch	36.0	31.2	33.0	45.0	40.8	42.6 (8-0-8)
XX-47	SC	42/42	1-11-61	340	Starch	37.2	33.0	34.5	47.6	40.8	44.2 (8-0-8)

TABLE A-50 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT XX
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
XX-50	SC	42/42	1-19-61	320	Starch	37.2	33.6	35.6	47.2	40.0	42.6 (9-1-8)
XX-53	SC	42/42	1-24-61	350	Starch	38.4	34.2	36.4	42.0	30.0	35.1 (8-0-8)
XX-55	SC	42/42	1-27-61	380	Starch	39.6	36.0	37.6	46.6	42.4	44.2 (8-0-8)
XX-57	SC	42/42	2- 2-61	360	Starch	39.0	34.8	36.6	49.0	40.2	45.1 (8-0-8)
XX-60	SC	42/42	2- 6-61	350	Starch	40.8	32.4	37.6	49.0	36.8	41.6 (11-3-8)
XX-62	SC	42/42	2- 8-61	360	Starch	42.0	36.0	38.6	49.2	40.0	44.0 (8-0-8)
XX-65	SC	42/42	2-13-61	370	Starch	40.8	36.0	38.4	53.2	45.4	49.7 (8-0-8)
XX-66	SC	42/42	2-13-61	370	Starch	38.4	31.2	35.8	50.2	46.4	48.8 (8-0-8)
XX-67	SC	42/42	2-23-61	350	Starch	36.0	31.8	34.9	47.8	40.0	43.4 (8-0-8)
XX-69	SC	42/42	2-22-61	380	Starch	38.4	34.2	36.0	43.8	39.0	42.0 (8-0-8)
XX-71	SC	42/42	3- 1-61	360	Starch	36.6	34.2	35.5	46.6	40.0	43.2 (8-0-8)
XX-74	SC	42/42	3- 2-61	340	Starch	38.4	34.2	36.0	49.6	42.0	46.8 (8-0-8)
XX-75	SC	42/42	3- 6-61	360	Starch	42.0	35.4	38.2	43.6	36.8	40.0 (12-8-4)
XX-78	SC	42/42	3- 8-61	380	Starch	39.6	34.8	37.0	45.0	40.4	42.2 (8-0-8)
XX-80	SC	42/42	3-14-61	340	Starch	38.4	34.8	36.5	46.0	42.2	43.5 (8-0-8)
XX-81	SC	42/42	3-15-61	360	Starch	40.8	36.6	39.1	45.4	40.2	42.2 (8-0-8)
XX-90	SC	42/42	3-28-61	350	Starch	42.0	37.2	39.3	47.6	42.4	44.6 (8-0-8)
XX-92	SC	42/42	3-29-61	370	Starch	42.0	37.2	39.4	46.2	42.6	44.8 (8-0-8)

TABLE A-51

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT YY
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
YY-1	SC	42/42	9-12-60	335	Starch	36.6	31.8	33.2	47.8	40.6	44.5 (8-0-8)
YY-2	SC	42/42	9-19-60	325	Starch	34.2	31.8	33.0	50.2	41.8	45.7 (8-0-8)
YY-3	SC	42/42	9-19-60	325	Starch	40.2	34.2	36.8	57.2	49.6	52.0 (8-0-8)
YY-4	SC	42/42	9-26-60	300	Starch	35.4	28.2	32.8	41.0	36.4	39.6 (8-0-8)
YY-5	SC	42/42	9-27-60	350	Starch	37.8	33.0	35.4	48.2	43.8	45.8 (8-0-8)
YY-6	SC	42/42	10-12-60	350	Starch	36.0	31.2	33.8	42.6	34.4	40.2 (8-0-8)
YY-7	SC	42/42	10-13-60	350	Starch	38.4	33.6	35.8	47.4	41.4	45.4 (8-0-8)
YY-8	SC	42/42	10-14-60	335	Starch	36.0	33.0	34.4	48.2	38.2	42.4 (8-0-8)
YY-9	SC	42/42	10-17-60	330	Starch	36.6	31.8	33.4	47.8	40.0	44.4 (8-0-8)
YY-10	SC	42/42	10-26-60	350	Starch	38.4	31.2	34.5	47.4	42.0	45.0 (8-0-8)
YY-11	SC	42/42	10-27-60	375	Starch Kabond with Ketac	34.8	30.6	33.0	47.8	40.8	44.4 (8-0-8)
YY-12	SC	42/42	11-15-60	350	Ketac starch	34.2	31.2	32.1	48.6	41.4	44.3 (8-0-8)
YY-13	SC	42/42	11-23-60	325	Starch	37.2	33.0	35.6	47.0	42.0	44.1 (8-0-8)
YY-14	SC	42/42	11-28-60	300	Starch	33.6	30.6	32.0	44.6	41.6	43.6 (8-0-8)
YY-15	SC	42/42	11-30-60	250	Starch	34.8	31.2	33.3	47.4	40.0	44.6 (8-0-8)
YY-16	SC	42/42	11-29-60	350	Starch	39.6	34.2	36.0	48.2	42.4	46.2 (8-0-8)
YY-17	SC	42/42	12- 6-60	325	Starch	34.8	31.2	33.6	47.4	38.0	39.1 (8-0-8)
YY-18	SC	42/42	12-12-60	350	Starch	36.0	28.8	33.3	46.0	43.2	44.5 (8-0-8)
YY-19	SC	42/42	12-12-60	325	Starch	34.8	30.6	32.6	49.0	42.6	46.6 (8-0-8)
YY-20	SC	42/42	2- 2-61	300	Kabond starch	37.8	33.6	36.3	46.6	39.4	43.0 (8-0-8)

TABLE A-52

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT ZZ
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
ZZ-1	SC	42/42	9-12-60	300 start 420 end	Starch	34.8	31.2	32.8	45.0	33.6	39.9 (8-0-8)
ZZ-2	SC	42/42	9-14-60	350	Starch	42.6	36.6	39.4	51.4	40.0	45.6 (8-0-8)
ZZ-3	SC	42/42	9-17-60	320 start 400 end	Starch	39.6	32.4	35.0	45.0	40.4	42.1 (8-0-8)
ZZ-4	SC	42/42	9-19-60	350 start 380 end	Starch	37.2	30.0	32.9	46.4	37.0	40.8 (8-0-8)
ZZ-8	SC	42/42	9-27-60	420 start 400 end	Starch	35.4	31.2	33.3	48.4	39.6	42.6 (8-0-8)
ZZ-10	SC	38/42	10- 7-60	350 start 400 end	Starch	34.2	30.6	32.2	44.8	37.2	40.7 (8-0-8)
ZZ-12	SC	42/42	10-11-60	400	Starch	38.4	31.8	34.0	49.0	38.0	43.0 (8-0-8)
ZZ-13	SC	42/42	10-13-60	380 start 420 end	Starch	35.4	29.4	33.4	43.6	37.4	39.2 (8-0-8)
ZZ-14	SC	42/42	11- 1-60	400	Starch	36.0	30.6	33.2	44.8	34.8	41.1 (8-0-8)
ZZ-15	SC	42/42	10-26-60	400 start 450 end	Starch	34.8	32.4	33.3	42.8	39.6	41.0 (8-0-8)
ZZ-16	SC	42/42	10-28-60	420 start 440 end	Starch	36.6	32.4	34.3	46.2	40.0	42.3 (8-0-8)
ZZ-17	SC	42/42	11- 9-60	450	Starch	34.2	30.0	32.6	47.4	37.4	41.1 (8-0-8)
ZZ-18	SC	42/42	11-15-60	400 start 420 end	Starch	39.0	34.2	36.8	51.8	47.8	49.5 (8-0-8)
ZZ-19	SC	42/42	11-16-60	440 start 420 end	Starch	36.6	32.4	34.5	50.2	43.0	46.3 (8-0-8)
ZZ-20	SC	42/42	11-25-60	400 start 420 end	Starch	37.8	30.6	34.5	46.0	40.0	43.6 (8-0-8)
ZZ-21	SC	42/42	11-26-60	420 start 400 end	Starch	37.2	34.2	35.6	47.8	39.6	44.2 (8-0-8)
ZZ-22	SC	42/42	11-26-60	380 start 420 end	Starch	34.8	31.8	33.5	44.8	37.4	41.9 (8-0-8)
ZZ-23	SC	42/42	11-28-60	400	Starch	37.2	31.2	34.0	43.4	37.8	40.1 (8-0-8)

TABLE A-52 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT ZZ
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
ZZ-24	SC	42/42	11-28-60	400 start							
				420 end	Starch	34.2	30.6	32.2	43.2	34.0	40.0 (8-0-8)
ZZ-25	SC	42/42	11-29-60	400	Starch	33.0	28.8	30.9	48.8	38.0	41.1 (8-0-8)
ZZ-26	SC	42/42	11-30-60	440 start							
				400 end	Starch	33.6	31.2	32.4	40.8	37.0	39.3 (8-0-8)
ZZ-27	SC	42/42	12- 1-60	380 start							
				400 end	Starch	38.4	33.6	35.4	51.0	42.0	47.0 (8-0-8)
ZZ-28	SC	42/42	12- 2-60	380 start							
				420 end	Starch	37.8	33.6	35.3	48.2	41.0	45.3 (8-0-8)
ZZ-29	SC	42/42	12- 5-60	400	Starch	39.0	34.2	36.4	49.4	39.8	45.7 (8-0-8)
ZZ-30	SC	42/42	12- 6-60	400 start							
				420 end	Starch	39.6	31.8	36.3	42.8	34.0	38.9 (8-0-8)
ZZ-31	SC	42/42	12- 8-60	420 start							
				400 end	Starch	37.2	33.0	35.0	45.0	37.0	41.2 (8-0-8)
ZZ-32	SC	42/42	12-12-60	400	Starch	33.6	29.4	32.0	43.8	39.2	41.6 (8-0-8)
ZZ-33	SC	42/42	12-14-60	400	Starch	36.6	32.4	34.0	45.0	39.0	40.9 (9-1-8)
ZZ-34	SC	42/42	12-19-60	420 start							
				400 end	Starch	36.6	31.8	34.4	46.6	38.0	43.4 (8-0-8)
ZZ-35	SC	42/42	12-22-60	450 start							
				420 end	Starch	35.4	30.6	33.5	48.2	40.4	43.7 (8-0-8)
ZZ-36	SC	42/42	12-27-60	420 start							
				400 end	Starch	35.4	31.2	33.4	45.4	42.0	43.7 (8-0-8)
ZZ-37	SC	42/42	12-29-60	400	Starch	36.6	33.0	34.3	46.8	42.0	44.2 (8-0-8)
ZZ-38	SC	42/42	1- 3-61	380 start							
				410 end	Starch	34.2	31.2	32.5	45.0	38.0	41.8 (8-0-8)
ZZ-39	SC	42/42	1- 5-61	430 start							
				425 end	Starch	34.2	29.4	32.1	45.2	39.2	42.2 (8-0-8)
ZZ-40	SC	42/42	1-10-61	400	Starch	37.8	31.2	34.5	48.6	41.2	44.9 (8-0-8)
ZZ-41	SC	42/42	1-12-61	380 start							
				430 end	Starch	40.2	37.2	38.9	49.6	45.8	47.9 (8-0-8)

TABLE A-52 (Continued)

CONCORA AND FLAT CRUSH RESULTS FOR BOX PLANT ZZ
(C-Flute)

Sample No.	Type of Medium	Liner Wt., S.F./D.F., lb./M sq. ft.	Date Corrugated	Corrugator Speed, f.p.m.	Adhesive	Concora Flat Crush, p.s.i.			Combined Box Flat Crush, p.s.i.		
						Max.	Min.	Av.	Max.	Min.	Av.
ZZ-42	SC	42/42	1-17-61	420	Starch	40.8	34.8	38.1	50.0	43.8	46.8 (8-0-8)
ZZ-43	SC	42/42	1-24-61	400	Starch	40.2	37.2	38.7	46.0	42.6	44.1 (8-0-8)
ZZ-44	SC	42/42	1-27-61	380 start							
				440 end	Starch	37.8	30.6	33.3	42.8	36.8	39.4 (8-0-8)
ZZ-45	SC	42/42	1-31-61	400 start							
				410 end	Starch	40.8	35.4	38.2	45.2	38.2	40.5 (8-0-8)
ZZ-46	SC	42/42	2- 3-61	420 start							
				440 end	Starch	40.8	33.6	38.0	46.2	40.2	43.8 (8-0-8)
ZZ-47	SC	42/42	2- 6-61	400 start							
				440 end	Starch	41.4	39.6	40.4	45.2	38.0	42.2 (8-0-8)
ZZ-48	SC	42/42	2- 8-61	400	Starch	40.2	37.2	38.6	49.2	46.2	47.8 (8-0-8)
ZZ-49	SC	42/42	2-10-61	380 start							
				410 end	Starch	42.0	36.6	39.3	47.6	43.4	46.0 (8-0-8)
ZZ-50	SC	42/42	2-13-61	420 start							
				400 end	Starch	36.0	32.4	33.4	41.4	31.8	36.4 (8-0-8)
ZZ-51	SC	42/42	2-15-61	420 start							
				440 end	Starch	35.4	31.2	34.4	46.8	38.8	41.8 (8-0-8)
ZZ-52	SC	42/42	2-17-61	380 start							
				410 end	Starch	37.2	33.0	34.6	42.4	32.8	40.6 (8-0-8)
ZZ-53	SC	42/42	2-21-61	410 start							
				440 end	Starch	40.2	36.6	39.3	52.0	46.2	48.6 (8-0-8)
ZZ-54	SC	42/42	2-23-61	400 start							
				380 end	Starch	43.8	36.6	40.0	48.4	41.8	45.2 (8-0-8)

APPENDIX B

FREQUENCY DISTRIBUTIONS FOR INDIVIDUAL PLANTS

The following tables give frequency distributions for both Concora and combined board flat crush for each plant. The tables are arranged in alphabetical order by plant code letter.

TABLE B-1

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT A
(A-Flute)

Flat Crush Range, p.s.i.	Frequency											Cumulative Total	Cumulative Per Cent
	Concora Range, p.s.i.												
	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9		
27.0-27.9	--	--	--	--	1	--	--	--	--	--	--	1	1.8
28.0-28.9	--	--	--	--	--	--	--	--	--	--	--	1	1.8
29.0-29.9	--	1	2	1	1	2	--	--	--	--	--	8	14.8
30.0-30.9	--	1	--	2	7	1	--	--	1	--	--	20	37.1
31.0-31.9	--	--	--	1	3	1	3	1	1	--	--	30	55.6
32.0-32.9	--	--	--	--	3	3	1	2	1	1	--	41	75.9
33.0-33.9	--	--	--	1	--	2	--	--	1	--	--	45	83.3
34.0-34.9	--	--	--	2	--	--	--	1	--	1	--	49	90.7
35.0-35.9	--	--	--	--	--	--	1	2	--	--	--	52	96.3
36.0-36.9	--	--	--	--	--	--	--	1	--	--	--	53	98.1
37.0-37.9	--	--	--	--	--	--	--	--	--	--	1	54	100.0
Cumulative total	--	2	4	11	26	35	40	47	51	53	54		
Cumulative per cent	--	3.7	7.4	20.4	48.1	64.8	74.1	87.0	94.4	98.1	100.0		

TABLE B-2

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT B
(B-Flute)

	Frequency												
	Concora Range, p.s.i.												
Flat Crush Range, p.s.i.	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	Cumulative Total	Cumulative Per Cent
43.0-43.9	--	--	--	--	1	1	1	--	--	--	--	3	5.7
44.0-44.9	1	--	1	--	2	--	1	--	--	--	--	8	15.1
45.0-45.9	--	--	1	--	--	--	1	--	--	--	--	10	18.9
46.0-46.9	1	--	1	--	--	1	--	--	--	--	--	13	24.5
47.0-47.9	--	1	--	--	2	2	1	--	--	--	--	19	35.8
48.0-48.9	--	--	--	--	1	--	--	1	1	--	--	22	41.5
49.0-49.9	--	--	--	1	--	4	3	--	2	--	1	33	62.3
50.0-50.9	--	--	--	1	1	--	1	3	--	--	--	39	73.6
51.0-51.9	--	--	--	--	2	2	--	--	--	--	--	43	81.1
52.0-52.9	--	--	--	--	1	--	1	--	--	--	--	45	84.9
53.0-53.9	--	--	--	1	1	--	--	1	1	--	--	49	92.5
54.0-54.9	--	--	--	--	--	--	--	2	--	--	--	51	96.2
55.0-55.9	--	--	--	--	--	1	--	--	--	--	--	52	98.1
56.0-56.9	--	--	--	--	--	--	--	1	--	--	--	53	100.0
Cumulative total	2	3	6	9	20	31	40	48	52	52	53		
Cumulative per cent	3.8	5.7	11.3	17.0	37.7	58.5	75.5	90.6	98.1	98.1	100.0		

TABLE B-3

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT C
(A-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.										Cumulative Total	Cumulative Per Cent
	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9		
25.0-25.9	2	--	--	--	--	--	--	--	--	--	2	3.7
26.0-26.9	--	--	1	1	--	--	--	--	--	--	4	7.4
27.0-27.9	--	--	1	--	1	--	--	--	--	--	6	11.1
28.0-28.9	1	1	1	3	2	--	--	--	--	--	14	25.9
29.0-29.9	--	--	4	1	3	4	2	--	--	--	28	51.9
30.0-30.9	--	1	--	--	4	3	3	--	--	--	39	72.2
31.0-31.9	--	--	--	--	1	2	--	--	--	--	42	77.8
32.0-32.9	--	--	--	1	--	4	--	1	1	--	49	90.7
33.0-33.9	--	--	--	--	--	1	1	--	--	1	52	96.3
34.0-34.9	--	--	--	--	--	--	2	--	--	--	54	100.0
Cumulative total	3	5	12	18	29	43	51	52	53	54		
Cumulative per cent	5.6	9.3	22.2	33.3	53.7	79.6	94.4	96.3	98.1	100.0		

TABLE B-4

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT D
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.											Cumulative Total	Cumulative Per Cent
	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9		
36.0-36.9	1	1	1	1	--	--	--	--	--	--	--	4	7.4
37.0-37.9	--	--	--	--	--	--	2	--	--	--	--	6	11.1
38.0-38.9	--	--	--	--	1	1	3	--	--	--	--	11	20.4
39.0-39.9	--	--	1	1	4	--	5	1	--	--	--	23	42.6
40.0-40.9	--	2	--	1	1	3	2	3	--	1	--	36	66.7
41.0-41.9	--	--	--	1	1	1	2	--	1	--	--	42	77.8
42.0-42.9	--	--	1	--	--	--	1	--	1	1	1	47	87.0
43.0-43.9	--	--	--	2	--	--	1	--	2	--	--	52	96.3
44.0-44.9	--	--	--	--	--	--	--	--	--	1	--	53	98.1
45.0-45.9	--	--	--	--	--	--	--	--	1	--	--	54	100.0
Cumulative total	1	4	7	13	20	25	41	45	50	53	54		
Cumulative per cent	1.9	7.4	13.0	24.1	37.0	46.3	75.9	83.3	92.6	98.1	100.0		

TABLE B-5

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT E
(C-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.								Cumulative Total	Cumulative Per Cent
	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9		
28.0-28.9	1	--	--	--	--	--	--	--	1	1.9
29.0-29.9	--	--	--	--	--	--	--	--	1	1.9
30.0-30.9	--	--	--	--	--	--	--	--	1	1.9
31.0-31.9	--	--	1	1	--	--	--	--	3	5.6
32.0-32.9	--	1	--	--	--	--	--	--	4	7.4
33.0-33.9	1	--	2	1	--	--	--	--	8	14.8
34.0-34.9	--	1	1	1	1	--	--	--	12	22.2
35.0-35.9	--	2	2	5	--	--	--	--	21	38.9
36.0-36.9	1	2	3	3	1	1	--	--	32	59.3
37.0-37.9	--	--	1	2	1	1	--	--	37	68.6
38.0-38.9	--	--	--	1	3	2	1	--	44	81.5
39.0-39.9	--	--	--	--	1	1	3	1	50	92.6
40.0-40.9	--	--	--	--	1	--	--	1	52	96.3
41.0-41.9	--	--	--	--	--	1	--	--	53	98.1
42.0-42.9	--	--	1	--	--	--	--	--	54	100.0
Cumulative total	3	9	20	34	42	48	52	54		
Cumulative per cent	5.6	16.7	37.0	63.0	77.8	88.9	96.3	100.0		

TABLE B-6

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT F
(A-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.														Cumulative Total	Cumulative Per Cent
	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9		
19.0-19.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.8
20.0-20.9	--	1	--	--	--	--	--	--	--	--	--	--	--	--	2	3.7
21.0-20.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	3.7
22.0-22.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	3	5.6
23.0-23.9	--	--	1	--	1	--	--	--	--	--	--	--	--	--	5	9.3
24.0-24.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	6	11.1
25.0-25.9	--	1	3	--	--	--	--	--	--	--	--	--	--	--	10	18.5
26.0-26.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	11	20.4
27.0-27.9	--	--	1	--	1	--	1	--	--	--	--	--	--	--	14	25.9
28.0-28.9	--	--	--	--	--	2	1	--	--	--	--	--	--	--	17	31.5
29.0-29.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	18	33.3
30.0-30.9	--	--	--	--	--	1	--	--	1	--	--	--	--	--	20	37.1
31.0-31.9	--	--	--	--	--	--	1	--	--	--	2	--	--	--	23	42.6
32.0-32.9	--	--	--	--	--	--	4	--	1	--	1	--	--	1	30	55.6
33.0-33.9	--	--	--	--	--	--	--	1	1	2	--	1	--	--	35	64.8
34.0-34.9	--	--	--	--	--	--	1	--	2	3	--	--	--	--	41	75.9
35.0-35.9	--	--	--	--	--	--	--	--	1	--	2	--	--	--	44	81.5
36.0-36.9	--	--	--	--	--	--	--	--	1	--	--	1	--	--	46	85.2
37.0-37.9	--	--	--	--	--	--	--	--	--	--	2	--	--	--	48	88.9
38.0-38.9	--	--	--	--	--	--	--	--	--	--	2	2	1	--	53	98.1
39.0-39.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	54	100.0
Cumulative total	1	3	8	9	11	14	24	26	33	38	47	51	53	54		
Cumulative per cent	1.8	5.6	14.8	16.7	20.4	25.9	44.4	48.1	61.1	70.4	87.0	94.4	98.1	100.0		

TABLE B-7

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT G
(A-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.																Cumulative Total	Cumulative Per Cent
	24.0- 24.9	25.0- 25.9	26.0- 26.9	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9			
22.0-22.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.8	
23.0-23.9	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	2	3.7	
24.0-24.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.6	
25.0-25.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.6	
26.0-26.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	4	7.4	
27.0-27.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	5	9.3	
28.0-28.9	--	--	--	--	1	2	2	3	1	--	--	1	--	--	--	15	27.8	
29.0-29.9	--	--	--	--	--	1	--	1	3	3	--	1	--	--	--	24	44.4	
30.0-30.9	--	--	--	--	--	--	--	1	2	3	3	2	--	--	--	35	64.8	
31.0-31.9	--	--	--	--	--	--	--	--	2	--	--	--	1	1	--	39	72.2	
32.0-32.9	--	--	--	--	--	--	--	1	--	--	2	1	--	--	2	45	83.3	
33.0-33.9	--	--	--	--	--	--	--	--	--	1	1	2	4	--	--	53	98.1	
34.0-34.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	54	100.0	
Cumulative total	2	3	3	3	4	7	10	17	25	32	38	45	50	51	54			
Cumulative per cent	3.7	5.6	5.6	5.6	7.4	13.0	18.5	31.5	46.3	59.3	70.4	83.3	92.6	94.4	100.0			

TABLE B-8

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT H
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.																Cumulative Total	Cumulative Per Cent
	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9	42.0- 42.9		
27.0-27.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
28.0-28.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
29.0-29.9	--	--	--	--	1	1	--	--	--	--	--	--	--	--	--	--	3	5.6
30.0-30.9	1	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	5	9.3
31.0-31.9	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	7	13.0
32.0-32.9	--	--	--	--	--	--	2	--	2	--	1	--	1	--	--	--	13	24.1
33.0-33.9	--	--	--	1	1	1	1	1	1	2	1	--	--	--	--	--	22	40.7
34.0-34.9	--	--	1	2	--	--	1	1	1	2	--	2	--	--	--	--	32	59.3
35.0-35.9	--	--	--	--	--	--	--	--	1	1	1	2	--	--	--	--	37	68.6
36.0-36.9	--	--	--	--	--	--	--	--	--	1	--	--	1	--	--	--	39	72.2
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	40	74.1
38.0-38.9	--	--	--	--	--	--	--	--	1	--	1	--	--	--	--	--	42	77.8
39.0-39.9	--	--	--	--	--	--	--	--	1	1	1	--	1	--	--	--	46	85.2
40.0-40.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	47	87.0
41.0-41.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	47	87.0
42.0-42.9	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	49	90.7
43.0-43.9	--	--	--	--	--	--	1	--	--	1	--	--	--	--	--	--	51	94.4
44.0-44.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51	94.4
45.0-45.9	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	52	96.3
46.0-46.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	53	98.1
47.0-47.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
48.0-48.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
49.0-48.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	54	100.0
Cumulative total	1	1	2	6	8	13	18	20	27	36	42	49	53	53	53	54		
Cumulative per cent	1.9	1.9	3.7	11.1	14.8	24.1	33.3	37.0	50.0	66.7	77.8	90.7	98.1	98.1	98.1	100.0		

TABLE B-9
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT I
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.													Cumulative Total	Cumulative Per Cent
	26.0- 26.9	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9		
31.0-31.9	--	--	--	1	1	--	--	--	--	--	--	--	--	2	3.7
32.0-32.9	--	--	--	--	1	--	--	--	--	--	--	--	--	3	5.6
33.0-33.9	1	--	1	--	--	1	2	--	--	--	--	--	--	8	14.8
34.0-34.9	--	--	--	--	1	--	--	--	--	--	--	--	--	9	16.7
35.0-35.9	--	--	1	--	1	2	2	2	1	--	--	--	--	18	33.3
36.0-36.9	--	--	--	2	1	5	3	1	1	1	--	--	--	32	59.3
37.0-37.9	--	--	--	--	--	--	2	3	--	1	--	1	--	39	72.2
38.0-38.9	--	--	--	--	1	--	1	1	--	--	--	--	--	42	77.8
39.0-39.9	--	--	--	--	--	--	1	3	--	--	--	1	--	47	87.0
40.0-40.9	--	--	--	--	--	--	--	1	--	--	--	1	1	50	92.6
41.0-41.9	--	--	--	--	--	--	--	--	--	1	--	--	--	51	94.4
42.0-42.9	--	--	--	--	--	--	--	--	--	--	1	1	--	53	98.1
43.0-43.9	--	--	--	--	--	--	--	--	--	--	--	1	--	54	100.0
Cumulative total	1	1	3	6	12	20	31	42	44	47	48	53	54		
Cumulative per cent	1.9	1.9	5.6	11.1	22.2	37.0	57.4	77.8	81.5	87.0	88.9	98.1	100.0		

TABLE B-10
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT J
(A-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.															Cumulative Total	Cumulative Per Cent
	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	a	47.0- 47.9	a	49.0- 49.9	a	51.0- 51.9	52.0- 52.9		
29.0-29.9	2	--	--	--	1	--	--	--	--	--	--	--	--	--	--	3	8.3
30.0-30.9	--	--	1	2	1	--	--	--	--	--	--	--	--	--	--	7	19.4
31.0-31.9	--	1	2	--	1	1	--	--	--	--	--	--	--	--	--	12	33.3
32.0-32.9	--	--	--	1	1	--	1	1	--	--	--	--	--	--	--	16	44.4
33.0-33.9	--	--	--	--	--	6	3	--	--	--	--	--	--	--	--	25	63.4
34.0-34.9	--	--	1	--	--	2	--	--	--	--	--	--	--	--	--	28	77.8
35.0-35.9	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	30	83.3
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30	83.3
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30	83.3
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30	83.3
39.0-39.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	31	86.1
40.0-40.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	32	88.9
41.0-41.9	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	33	91.7
42.0-42.9	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	34	94.4
43.0-43.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34	94.4
44.0-44.9	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	35	97.2
45.0-45.9	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	36	100.0
Cumulative total	2	3	7	10	14	23	29	30	--	33	--	34	--	35	36		
Cumulative per cent	5.6	8.3	19.4	27.8	38.9	63.9	80.6	83.3	--	91.7	--	94.4	--	97.2	100.0		

^aConcora range intervals 38.0 through 46.9 p.s.i., 48.0-48.9 p.s.i., and 50.0-50.9 p.s.i. were omitted from the table as no test values fell in these intervals.

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT K
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.									Cumulative Total	Cumulative Per Cent
	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9		
	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency		
39.0-39.9	--	--	1	--	--	--	1	--	--	2	3.7
40.0-40.9	--	--	--	--	--	--	--	--	--	2	3.7
41.0-41.9	2	1	1	--	--	--	--	--	--	6	11.1
42.0-42.9	--	--	--	--	--	1	--	--	--	7	13.0
43.0-43.9	--	1	--	--	--	--	1	--	--	9	16.7
44.0-44.9	--	--	--	--	--	--	--	--	--	9	16.7
45.0-45.9	--	--	--	1	--	--	--	--	--	10	18.5
46.0-46.9	--	--	--	2	--	--	1	--	--	13	24.1
47.0-47.9	--	1	--	1	--	2	--	--	--	17	31.5
48.0-48.9	--	--	1	--	2	--	2	--	1	23	42.6
49.0-49.9	--	--	--	--	2	2	--	--	--	27	50.0
50.0-50.9	--	--	1	--	2	1	--	--	--	31	57.4
51.0-51.9	--	--	--	--	3	2	--	--	--	36	66.7
52.0-52.9	--	--	--	1	2	--	1	--	1	41	75.9
53.0-53.9	--	--	--	--	2	1	--	1	--	45	83.3
54.0-54.9	--	--	--	--	1	--	1	1	1	49	90.7
55.0-55.9	--	--	--	--	1	--	1	--	--	51	94.4
56.0-56.9	--	--	--	--	--	--	1	--	--	52	96.3
57.0-57.9	--	--	--	--	--	--	--	--	--	52	96.3
58.0-58.9	--	--	--	--	--	--	--	1	--	53	98.1
59.0-59.9	--	--	--	--	--	1	--	--	--	54	100.0
Cumulative total	2	5	9	14	29	39	48	51	54		
Cumulative per cent	3.7	9.3	16.7	25.9	53.7	72.2	88.9	94.4	100.0		

TABLE B-12

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT L
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.										Cumulative Total	Cumulative Per Cent
	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9		
39.0-39.9	--	1	--	--	--	--	--	--	--	--	1	16.7
40.0-40.9	1	--	--	--	--	--	--	--	--	--	2	33.3
47.0-47.9	--	--	--	--	--	--	--	--	1	--	3	50.0
48.0-48.9	--	--	--	--	--	--	--	--	--	1	4	66.7
50.0-50.9	--	--	--	--	--	1	--	--	--	--	5	83.3
54.0-54.9	--	--	--	--	--	1	--	--	--	--	6	100.0
Cumulative total	1	2	2	2	2	4	4	4	5	6		
Cumulative per cent	16.7	33.3	33.3	33.3	33.3	66.7	66.7	66.7	83.3	100.0		

TABLE B-13

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT M
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.		Cumulative Total	Cumulative Per cent
	33.0- 33.9	34.0- 34.9		
55.0-55.9	1	--	1	50.0
56.0-56.9	--	1	2	100.0
Cumulative total	1	2		
Cumulative per cent	50.0	100.0		

TABLE B-14

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT N
(C-Flute)

Frequency																
		Concora Range, p.s.i.														
Flat Crush Range, p.s.i.	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	a	44.0- 44.9	45.0- 45.9	Cumulative Total	Cumulative Per Cent
29.0-29.9	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1	1.9
30.0-30.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	2	3.7
31.0-31.9	--	--	--	--	1	--	--	--	--	--	--	--	--	--	3	5.6
32.0-32.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.6
33.0-33.9	--	--	1	--	--	1	--	--	--	--	--	--	--	--	5	9.3
34.0-34.9	--	--	--	--	--	--	--	1	--	--	1	--	--	--	7	13.0
35.0-35.9	--	--	--	--	1	--	--	1	--	--	--	--	--	--	9	16.7
36.0-36.9	--	--	--	--	1	--	--	3	--	--	--	--	--	--	13	24.1
37.0-37.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	14	25.9
38.0-38.9	--	--	--	--	--	--	--	2	1	1	--	--	--	--	18	33.3
39.0-39.9	--	--	1	--	--	--	1	--	--	--	--	--	--	--	20	37.0
40.0-40.9	--	--	--	1	--	2	2	--	--	1	--	--	--	--	26	48.1
41.0-41.9	--	--	--	--	1	2	--	1	--	1	--	--	--	--	31	57.4
42.0-42.9	--	--	--	--	1	2	1	1	2	1	--	--	--	--	39	72.2
43.0-43.9	--	--	--	--	1	--	1	1	--	1	--	--	--	--	43	79.6
44.0-44.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	44	81.5
45.0-45.9	--	--	--	1	--	--	--	1	--	--	--	--	--	--	46	85.2
46.0-46.9	--	--	--	--	--	--	1	1	--	--	--	--	--	--	48	88.9
47.0-47.9	--	--	--	--	--	1	--	--	--	1	--	--	--	--	50	92.6
48.0-48.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	51	94.4
49.0-49.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51	94.4
50.0-50.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	52	96.3
b	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
57.0-57.9	--	--	--	--	--	--	--	--	--	--	--	--	--	1	53	98.1
b	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
62.0-62.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	54	100.0
Cumulative total	1	1	3	5	12	20	28	42	45	51	52	--	53	54		
Cumulative per cent	1.9	1.9	5.6	9.3	22.2	37.0	51.9	77.8	83.3	94.4	96.3	--	98.1	100.0		

^a Concora range intervals 39.0 through 43.9 p.s.i. were omitted from the table as no test values fell in these intervals.

^b Flat crush range intervals 51.0 through 56.9 p.s.i., and 58.0 through 61.9 p.s.i. were omitted from the tables as no test values fell in these intervals.

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT 0

Frequency

Concora Range, p.s.l.		Flat Crush		Range, p.s.l.	
Cumulative	Total	Cumulative	Total	Per Cent	
33.0-	34.0-	33.9	33.9	1	39.0-39.9
34.0-	35.0-	34.9	35.9	1	40.0-40.9
35.0-	36.0-	36.9	36.9	2	41.0-41.9
36.0-	37.0-	37.9	37.9	3	42.0-42.9
37.0-	38.0-	38.9	38.9	5	43.0-43.9
38.0-	39.0-	39.9	39.9	8	44.0-44.9
39.0-	40.0-	40.9	40.9	11	45.0-45.9
40.0-	41.0-	41.9	41.9	10	46.0-46.9
41.0-	42.0-	42.9	42.9	7	47.0-47.9
42.0-	43.0-	43.9	43.9	1	48.0-48.9
43.0-	44.0-	44.9	44.9	11	49.0-49.9
44.0-	45.0-	45.9	45.9	100.0	50.0-50.9

TABLE B-16

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT P
(A-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.															Cumulative Total	Cumulative Per Cent
	26.0- 26.9	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9		
24.0-24.9	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.8
25.0-25.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.8
26.0-26.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	2	3.6
27.0-27.9	1	--	--	1	--	--	1	--	--	--	--	--	--	--	--	5	9.1
28.0-28.9	--	--	--	1	2	--	--	--	--	--	--	--	--	--	--	8	14.5
29.0-29.9	--	--	--	1	--	--	--	1	--	--	1	--	--	--	--	11	20.0
30.0-30.9	--	1	--	1	1	1	2	1	--	1	--	--	--	--	--	19	34.5
31.0-31.9	--	--	--	--	2	1	--	2	--	--	--	1	1	--	--	26	47.3
32.0-32.9	--	--	--	--	--	1	1	1	--	--	--	1	1	--	--	31	56.4
33.0-33.9	--	--	--	--	--	2	1	1	1	2	1	2	--	--	1	42	76.4
34.0-34.9	--	--	--	--	--	1	1	1	--	1	--	--	--	1	--	47	85.5
35.0-35.9	--	--	--	--	--	--	--	2	2	--	--	--	--	--	--	51	92.7
36.0-36.9	--	--	--	--	--	--	--	1	1	--	1	--	--	--	--	54	98.2
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	54	98.2
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	54	98.2
39.0-39.9	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	55	100.0
Cumulative total	1	3	3	8	13	19	25	35	39	44	47	51	53	54	55		
Cumulative per cent	1.8	5.5	5.5	14.5	23.6	34.5	45.5	63.6	70.9	80.0	85.5	92.7	96.4	98.2	100.0		

TABLE B-17

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT Q
(A-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.											Cumulative Total	Cumulative Per Cent
	26.0- 26.9	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9		
23.0-23.9	1	--	--	--	--	--	--	--	--	--	--	1	6.2
24.0-24.9	--	--	1	--	--	--	--	--	--	--	--	2	12.5
25.0-25.9	--	--	--	--	--	--	--	--	--	--	--	2	12.5
26.0-26.9	--	--	--	2	--	--	--	--	--	--	--	4	25.0
27.0-27.9	--	1	--	--	1	--	--	--	--	--	--	6	37.5
28.0-28.9	--	1	--	--	--	--	--	--	--	--	--	7	43.8
29.0-29.9	--	--	--	--	1	1	--	--	1	--	--	10	62.5
30.0-30.9	--	--	--	--	--	--	--	--	--	--	1	10	62.5
31.0-31.9	--	--	--	--	--	--	1	--	--	--	1	13	81.2
32.0-32.9	--	--	--	--	--	--	--	--	--	--	--	13	81.2
33.0-33.9	--	--	--	--	--	--	--	--	1	--	--	14	87.5
34.0-34.9	--	--	--	--	--	--	--	--	--	--	--	14	87.5
35.0-35.9	--	--	--	--	--	--	--	--	--	1	--	15	93.8
36.0-36.9	--	--	--	--	--	--	--	--	1	--	--	16	100.0
Cumulative total	1	3	4	6	8	9	10	10	13	14	16		
Cumulative per cent	6.2	18.8	25.0	37.5	50.0	56.2	62.5	62.5	81.2	87.5	100.0		

TABLE B-18

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT R
(B-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.																Cumulative Total	Cumulative Per Cent
	24.0- 24.9	25.0- 25.9	26.0- 26.9	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9		
29.0-29.9	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
30.0-30.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
31.0-31.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
32.0-32.9	--	--	1	--	--	1	--	--	1	--	--	--	--	--	--	--	4	7.4
33.0-33.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	5	9.3
34.0-34.9	--	--	--	1	--	--	1	--	--	--	--	--	--	--	--	--	7	13.0
35.0-35.9	--	--	--	--	--	1	1	1	--	--	--	--	--	--	--	--	10	18.5
36.0-36.9	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	12	22.2
37.0-37.9	--	--	--	1	--	--	1	--	1	--	--	--	--	--	--	--	15	27.8
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15	27.8
39.0-39.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	16	29.6
40.0-40.9	--	--	--	--	--	--	1	--	2	--	--	--	--	--	--	--	19	35.2
41.0-41.9	--	--	--	--	--	--	--	--	1	1	1	--	--	1	--	--	23	42.6
42.0-42.9	--	--	--	--	--	--	--	--	1	--	3	--	1	--	--	--	28	51.9
43.0-43.9	--	--	--	--	--	--	--	--	1	1	--	--	--	--	--	--	30	55.6
44.0-44.9	--	--	--	--	--	1	1	--	--	1	--	1	--	--	--	--	34	63.0
45.0-45.9	--	--	--	--	--	--	--	--	--	1	1	--	1	--	--	--	37	68.6
46.0-46.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	39	72.2
47.0-47.9	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	1	42	77.8
48.0-48.9	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	44	81.5
49.0-49.9	--	--	--	--	--	--	--	--	1	--	1	1	--	--	--	--	47	87.0
50.0-50.9	--	--	--	--	--	--	--	--	--	--	1	--	1	--	--	--	49	90.7
51.0-51.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1	51	94.4
52.0-52.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51	94.4
53.0-53.9	--	--	--	--	--	--	--	--	--	--	1	--	1	--	--	--	53	98.1
54.0-54.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
55.0-55.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
56.0-56.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
57.0-57.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	54	100.0
Cumulative total	1	1	3	5	5	8	14	17	25	29	39	43	48	49	52	54		
Cumulative per cent	1.9	1.9	5.6	9.3	9.3	14.8	25.9	31.5	46.3	53.7	72.2	79.6	88.9	90.7	96.3	100.0		

TABLE B-19
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT S
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.											Cumulative Total	Cumulative Per Cent
	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9		
33.0-33.9	1	--	--	--	--	--	--	--	--	--	--	1	3.8
34.0-34.9	--	--	--	--	--	--	--	--	--	--	--	1	3.8
35.0-35.9	--	--	--	1	--	--	--	--	--	--	--	2	7.7
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	2	7.7
37.0-37.9	1	1	--	--	--	--	--	--	--	--	--	4	15.4
38.0-38.9	--	1	--	--	--	--	--	--	--	--	--	5	19.2
39.0-39.9	--	--	--	--	--	--	--	--	--	--	--	5	19.2
40.0-40.9	--	--	--	1	--	--	--	--	--	--	--	6	23.1
41.0-41.9	--	--	--	--	--	--	--	--	--	--	--	6	23.1
42.0-42.9	--	--	--	--	--	--	--	--	--	--	--	6	23.1
43.0-43.9	--	--	--	--	--	1	--	--	--	--	--	7	26.9
44.0-44.9	--	--	--	1	1	1	--	--	--	--	--	10	38.5
45.0-45.9	--	--	--	1	--	--	--	--	--	--	--	11	42.3
46.0-46.9	--	--	--	--	--	1	--	--	--	--	--	12	46.2
47.0-47.9	--	--	--	--	--	--	--	1	--	--	--	13	50.0
48.0-48.9	--	--	--	--	--	1	--	--	--	--	--	14	53.8
49.0-49.9	--	--	--	--	--	--	--	--	--	--	--	14	53.8
50.0-50.9	--	--	--	--	--	--	--	--	--	--	--	14	53.8
51.0-51.9	--	--	--	--	1	--	--	1	--	--	--	16	61.5
52.0-52.9	--	--	--	--	--	--	--	--	--	--	1	17	65.4
53.0-53.9	--	--	--	--	--	--	--	--	--	--	--	17	65.4
54.0-54.9	--	--	--	--	--	--	1	--	--	1	--	19	73.1
55.0-55.9	--	--	--	--	--	--	--	--	1	--	--	20	76.9
56.0-56.9	--	--	--	--	--	--	--	--	--	--	--	20	76.9
57.0-57.9	--	--	--	--	--	--	--	--	--	1	--	21	80.8
58.0-58.9	--	--	--	--	--	--	--	2	--	--	--	23	88.5
59.0-59.9	--	--	--	--	--	--	--	--	--	--	--	23	88.5
60.0-60.9	--	--	--	--	--	--	--	--	1	--	--	24	92.3
61.0-61.9	--	--	--	--	--	--	1	--	--	--	--	25	96.2
62.0-62.9	--	--	--	--	--	--	--	1	--	--	--	26	100.0
Cumulative total	2	4	4	8	10	14	16	21	23	25	26		
Cumulative per cent	7.7	15.4	15.4	30.8	38.5	53.8	61.5	80.8	88.5	96.2	100.0		

TABLE B-20

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT T
(C-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.															Cumulative Total	Cumulative Per Cent
	21.0- 21.9	^a	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9		
24.0-24.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	2.0
^b	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
36.0-36.9	--	--	1	2	1	1	--	--	--	--	1	--	--	--	--	7	14.0
37.0-37.9	--	--	--	2	1	1	--	1	--	1	--	--	--	--	--	13	26.0
38.0-38.9	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	16	32.0
39.0-39.9	--	--	--	--	2	--	2	1	--	--	--	--	--	--	--	21	42.0
40.0-40.9	--	--	--	1	--	--	--	1	1	--	--	--	--	--	--	24	48.0
41.0-41.9	--	--	--	--	--	--	1	1	1	--	--	--	--	--	--	27	54.0
42.0-42.9	--	--	--	--	--	--	2	1	2	1	--	1	--	--	--	34	68.0
43.0-43.9	--	--	--	--	--	1	--	1	1	2	1	--	--	--	--	40	80.0
44.0-44.9	--	--	--	--	--	1	--	1	--	1	2	--	--	--	1	46	92.0
45.0-45.9	--	--	--	--	--	--	--	--	2	--	--	--	--	1	--	49	98.0
46.0-46.9	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	50	100.0
Cumulative total	1	--	2	7	12	17	22	30	37	42	47	48	48	49	50		
Cumulative per cent	2.0	--	4.0	14.0	24.0	34.0	44.0	60.0	74.0	84.0	94.0	96.0	96.0	98.0	100.0		

^aConcora range intervals 22.0 through 27.9 p.s.i. were omitted from the table as no test values fell in these intervals.^bFlat crush range intervals 25.0 through 35.9 p.s.i. were omitted from the table as no test values fell in these intervals.

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT U

TABLE B-21

Concora Range, p.s.i.				Frequency			
Flat Crush Range, p.s.i.				(C-Flute)			
30.0-	31.0-	31.9	32.0-	32.0-	33.0-	Cumulative	Cumulative
Concora Range, p.s.i.				Frequency			
30.0-	31.0-	31.9	32.0-	32.0-	33.0-	Cumulative	Cumulative
30.9	30.9	30.9	30.9	30.9	30.9	Per Cent	Per Cent
38.0-38.9	--	1	--	--	--	1	16.7
39.0-39.9	--	--	--	--	--	1	16.7
40.0-40.9	--	1	--	--	--	2	33.3
41.0-41.9	1	--	--	--	--	3	50.0
42.0-42.9	--	--	--	1	--	4	75.0
43.0-43.9	--	--	--	--	--	4	75.0
44.0-44.9	--	--	--	--	--	4	75.0
45.0-45.9	--	--	--	1	--	5	83.3
46.0-46.9	--	--	--	1	--	6	100.0
Cumulative total	1	3	5	6	100.0		
Cumulative per cent	16.7	50.0	83.3	100.0			

TABLE B-22
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT V
(A-Flute)

Concora Range, p.s.i.										Frequency	
Flat Crush Range, p.s.i.	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-	39.0-	40.0-	41.0-	
26.0-26.9	--	--	1	--	--	--	--	--	--	1	1.8
27.0-27.9	--	--	--	--	--	--	--	--	--	1	1.8
28.0-28.9	1	--	--	1	--	--	--	--	--	3	5.6
29.0-29.9	1	--	--	--	--	--	1	--	--	5	9.3
30.0-30.9	1	--	--	--	1	--	1	--	--	8	14.8
31.0-31.9	--	--	--	1	1	2	1	--	--	13	24.1
32.0-32.9	--	--	--	1	2	3	1	--	--	20	37.1
33.0-33.9	--	--	1	2	1	3	--	--	--	28	51.9
34.0-34.9	--	--	1	2	2	2	1	2	--	40	74.1
35.0-35.9	--	--	--	--	3	1	1	2	1	50	92.6
36.0-36.9	--	--	--	--	--	--	2	1	--	54	100.0
Cumulative total											
per cent											
26.0-26.9	--	--	1	--	--	--	--	--	--	54	100.0
27.0-27.9	--	--	--	--	--	--	--	--	--	53	98.1
28.0-28.9	1	--	--	1	--	--	--	--	--	48	88.9
29.0-29.9	1	--	--	--	--	1	--	--	--	47	81.5
30.0-30.9	1	--	--	--	1	--	--	--	--	32	59.3
31.0-31.9	--	--	--	1	1	2	1	2	1	2	42.6
32.0-32.9	--	--	--	1	2	3	1	2	1	--	24.1
33.0-33.9	--	--	1	2	1	3	--	--	--	--	11.1
34.0-34.9	--	--	1	2	2	2	1	2	1	--	5.6
35.0-35.9	--	--	--	--	3	1	1	2	2	--	5.6
36.0-36.9	--	--	--	--	--	--	2	1	--	--	3
37.0-37.9	--	--	--	--	--	--	--	--	--	--	6
38.0-38.9	--	--	--	--	--	--	--	--	--	--	13
39.0-39.9	--	--	--	--	--	--	--	--	--	--	23
40.0-40.9	--	--	--	--	--	--	--	--	--	--	42.6
41.0-41.9	--	--	--	--	--	--	--	--	--	--	81.5
Total	32.9	33.9	34.9	35.9	36.9	37.9	38.9	39.9	40.9	41.9	100.0
Cumulative	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-	39.0-	40.0-	41.0-	
Per Cent	32.9	33.9	34.9	35.9	36.9	37.9	38.9	39.9	40.9	41.9	

TABLE B-23

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT W
(A-Flute)

Flat Crush Range, p.s.i.	Concorra Range, p.s.i.														Cumulative Total	Cumulative Per Cent
	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9	42.0- 42.9		
24.0-24.9	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1	1.8
25.0-25.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	2	3.7
26.0-26.9	--	1	1	--	1	--	--	--	--	--	--	--	--	--	5	9.3
27.0-27.9	2	--	--	--	1	1	--	--	--	--	--	--	--	--	9	16.7
28.0-28.9	--	--	--	1	--	1	--	--	--	--	--	--	--	--	11	20.4
29.0-29.9	1	1	4	2	1	2	--	--	--	--	--	--	--	--	22	40.7
30.0-30.9	--	--	--	--	1	1	--	1	--	--	--	--	--	--	25	46.3
31.0-31.9	--	--	--	--	3	1	1	--	1	--	--	--	--	--	31	57.4
32.0-32.9	--	--	--	--	2	--	--	--	1	--	--	--	--	--	34	63.0
33.0-33.9	--	--	--	--	--	1	2	1	1	1	--	1	--	--	41	75.9
34.0-34.9	--	--	--	--	--	--	--	1	3	2	1	--	--	--	48	88.9
35.0-35.9	--	--	--	--	--	--	--	--	1	--	--	--	--	--	49	90.7
36.0-36.9	--	--	--	--	--	--	1	1	--	--	--	--	--	1	52	96.3
37.0-37.9	--	--	--	--	--	--	--	--	1	--	--	--	--	--	53	98.1
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
39.0-39.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	54	100.0
Cumulative total	3	6	11	15	24	31	35	39	47	50	51	53	53	54		
Cumulative total	5.6	11.1	20.4	27.8	44.4	57.4	64.8	72.2	87.0	92.6	94.4	98.1	98.1	100.0		

TABLE B-24

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT X
(B-Flute)

		Frequency																
		Concora Range, p.s.i.																
Flat Crush Range, p.s.i.		25.0- 25.9	26.0- 26.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	41.0- 41.9	Cumulative Total	Cumulative Per Cent
27.0-27.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	1	1.9
28.0-28.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
29.0-29.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	2	3.7
30.0-30.9	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	3	5.6
31.0-31.9	1	--	--	--	--	1	2	--	--	--	--	--	--	--	--	--	7	13.0
32.0-32.9	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	14.8
33.0-33.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	14.8
34.0-34.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	9	16.7
35.0-35.9	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	10	18.5
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	18.5
37.0-37.9	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	11	20.4
a	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
42.0-42.9	--	--	--	--	--	--	--	--	2	--	--	--	1	--	--	--	14	25.9
43.0-43.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	25.9
44.0-44.9	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	15	27.8
45.0-45.9	--	--	--	--	--	--	1	--	--	--	1	--	--	--	--	--	17	31.5
46.0-46.9	--	--	--	--	--	--	--	2	--	2	1	--	1	--	--	--	23	42.6
47.0-47.9	--	--	--	--	--	--	--	--	--	1	--	--	1	--	--	--	25	46.3
48.0-48.9	--	--	--	--	--	--	--	--	--	2	1	--	1	1	--	--	30	55.6
49.0-49.9	--	--	--	--	--	--	--	--	--	--	1	--	1	1	--	--	33	61.1
50.0-50.9	--	--	--	--	--	--	--	--	--	--	--	--	1	1	2	--	37	68.6
51.0-51.9	--	--	--	--	--	--	--	--	--	--	1	1	1	--	1	--	41	75.9
52.0-52.9	--	--	--	--	--	--	--	--	--	--	--	2	--	1	--	--	44	81.5
53.0-53.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	45	83.3
54.0-54.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	47	87.0
55.0-55.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	1	--	49	90.7
56.0-56.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	49	90.7
57.0-57.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	50	92.6
58.0-58.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	51	94.4
59.0-59.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51	94.4
60.0-60.9	--	--	--	--	--	--	--	--	--	--	--	1	--	--	1	--	53	98.1
61.0-61.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
62.0-62.9	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	54	100.0
Cumulative total		1	2	3	4	6	10	14	16	21	27	32	41	45	53	54		
Cumulative per cent		1.9	3.7	5.6	7.4	11.1	18.5	25.9	29.6	38.9	50.0	59.3	75.9	83.3	98.1	100.0		

^aFlat crush range intervals 38.0 through 41.9 p.s.i. were omitted from the table as no test values fell in these intervals.

TABLE B-25
 FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT Y
 (B-Flute)

Frequency															
Flat Crush Range, p.s.i.	Concora Range, p.s.i.													Cumulative Total	Cumulative Per Cent
	26.0-	27.0-	28.0-	29.0-	30.0-	31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-		
	26.9	27.9	28.9	29.9	30.9	31.9	32.9	33.9	34.9	35.9	36.9	37.9	38.9		
28.0-28.9	--	--	--	1	--	--	--	--	--	--	--	--	--	1	1.9
29.0-29.9	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
30.0-30.9	--	--	--	1	--	--	--	--	--	--	--	--	--	2	3.7
31.0-31.9	--	--	--	1	--	--	--	--	--	--	--	--	--	3	5.6
33.0-33.9	--	--	--	1	--	--	--	--	--	--	--	--	--	4	7.4
34.0-34.9	--	--	--	--	--	1	--	--	--	--	--	--	--	5	9.3
35.0-35.9	--	--	--	--	--	--	1	--	--	--	--	--	--	6	11.1
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	--	--	6	11.1
37.0-37.9	--	--	--	--	1	1	1	1	2	--	--	--	--	12	22.2
38.0-38.9	--	--	--	--	--	--	2	1	2	--	--	--	--	17	31.5
39.0-39.9	--	--	--	--	1	3	2	2	--	--	--	--	--	25	46.3
40.0-40.9	1	--	--	--	--	--	--	1	1	1	1	2	--	32	59.3
41.0-41.9	--	--	--	--	--	--	2	2	1	1	--	--	--	38	70.4
42.0-42.9	--	--	--	--	--	--	2	1	--	--	--	--	--	41	75.9
43.0-43.9	--	--	--	--	--	1	--	--	2	--	2	1	--	47	87.0
44.0-44.9	--	--	--	--	--	--	--	--	--	--	1	--	1	49	90.7
45.0-45.9	--	--	--	--	--	--	--	--	--	1	--	1	--	51	94.4
46.0-46.9	--	--	--	--	--	--	--	--	--	--	--	1	--	52	96.3
47.0-47.9	--	--	--	--	--	--	--	--	--	--	1	--	--	53	98.1
48.0-48.9	--	--	--	--	--	--	--	--	--	--	--	--	--	53	98.1
49.0-49.9	--	--	--	--	--	--	--	--	--	--	--	1	--	54	100.0
Cumulative total	1	1	1	5	7	13	23	31	39	42	47	53	54		
Cumulative per cent	1.9	1.9	1.9	9.3	13.0	24.1	42.6	57.4	72.2	77.8	87.0	98.1	100.0		

TABLE B-26
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT Z
(C-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.																Cumulative Total	Cumulative Per Cent
	27.0- 27.9	28.0- 28.9	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9	42.0- 42.9		
32.0-32.9	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
33.0-33.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
34.0-34.9	1	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.7
35.0-35.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.7
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	5.7
37.0-37.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	4	7.5
38.0-38.9	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	5	9.4
39.0-39.9	--	--	--	1	--	--	--	1	--	--	--	--	--	--	--	--	7	13.2
40.0-40.9	--	--	--	--	--	1	1	--	--	--	--	--	--	--	--	--	9	17.0
41.0-41.9	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	11	20.8
42.0-42.9	--	--	--	--	--	1	--	--	1	--	--	--	--	--	--	--	13	24.5
43.0-43.9	--	--	--	--	--	--	--	1	--	--	--	1	--	--	--	--	15	28.3
44.0-44.9	--	--	--	--	--	--	--	--	--	1	--	1	--	--	--	--	17	32.1
45.0-45.9	--	--	--	--	--	--	--	--	1	--	1	--	--	--	--	1	20	37.7
46.0-46.9	--	--	--	--	--	--	--	--	1	--	1	3	--	--	--	--	25	47.2
47.0-47.9	--	--	--	--	--	--	--	--	1	--	2	--	1	--	--	--	29	54.7
48.0-48.9	--	1	--	--	--	--	--	--	--	1	1	2	--	--	--	1	35	66.0
49.0-49.9	--	--	--	--	--	--	--	1	--	--	1	3	--	--	--	--	40	75.5
50.0-50.9	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	--	42	79.2
51.0-51.9	--	--	--	--	--	--	--	3	1	--	--	2	--	--	--	--	48	90.6
52.0-52.9	--	--	--	--	--	--	--	--	--	--	--	1	--	1	--	--	50	94.3
53.0-53.9	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	--	52	98.1
54.0-54.9	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	53	100.0
Cumulative total	2	3	4	5	5	9	12	18	23	26	34	48	49	51	51	53		
Cumulative per cent	3.8	5.7	7.5	9.4	9.4	17.0	22.6	34.0	43.4	49.1	64.2	90.6	92.5	96.2	96.2	100.0		

TABLE B-27

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT AA
(A-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.												Cumulative Total	Cumulative Per Cent
	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9	42.0- 42.9	43.0- 43.9	44.0- 44.9		
28.0-28.9	1	--	--	--	--	--	--	--	--	--	--	--	1	1.9
29.0-29.9	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
30.0-30.9	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
31.0-31.9	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
32.0-32.9	--	1	1	1	1	--	--	--	--	--	--	--	5	9.6
33.0-33.9	--	--	1	5	6	1	--	1	--	--	--	--	19	36.5
34.0-34.9	--	--	1	2	3	3	1	--	--	--	--	--	29	55.8
35.0-35.9	--	--	--	2	2	1	3	1	--	--	--	--	38	73.1
36.0-36.9	--	--	--	--	--	1	4	3	1	--	--	--	48	92.3
37.0-37.9	--	--	--	--	1	1	1	--	--	--	--	--	51	98.1
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	51	98.1
39.0-39.9	--	--	--	--	--	--	--	--	--	--	--	--	51	98.1
40.0-40.9	--	--	--	--	--	--	--	--	--	--	--	1	52	100.0
Cumulative total	1	2	5	15	28	35	45	50	51	51	51	52		
Cumulative per cent	1.9	3.8	9.6	28.8	53.8	67.3	86.5	96.2	98.1	98.1	98.1	100.0		

TABLE B-28

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT BB
(A-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.													Cumulative Total	Cumulative Per Cent
	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9	42.0- 42.9	43.0- 43.9	44.0- 44.9		
31.0-31.9	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0.0
32.0-32.9	1	1	--	1	--	1	--	--	--	--	--	--	--	4	7.3
33.0-33.9	--	--	--	1	1	--	3	1	--	1	--	--	--	11	20.0
34.0-34.9	--	--	1	2	3	5	5	4	--	--	--	--	--	31	56.4
35.0-35.9	--	--	--	2	2	3	4	3	--	--	--	--	--	45	81.8
36.0-36.9	--	--	--	--	2	--	2	--	1	2	--	--	1	53	96.4
37.0-37.9	--	--	--	--	--	1	--	1	--	--	--	--	--	55	100.0
Cumulative total	1	2	3	9	17	27	41	50	51	54	54	54	55		
Cumulative per cent	1.8	3.6	5.5	16.4	30.9	49.1	74.5	90.9	92.7	98.2	98.2	98.2	100.0		

TABLE B-29

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT CC
(A-Flute)

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Flat Crush Range, p.s.i.	Concora Range, p.s.i.								Cumulative Total	Cumulative Per Cent
	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9		
30.0-30.9	--	--	--	1	--	--	--	--	1	1.8
31.0-31.9	--	3	3	2	--	--	1	--	10	18.5
32.0-32.9	1	5	1	3	5	1	1	--	27	50.0
33.0-33.9	--	1	2	3	3	3	--	--	39	72.2
34.0-34.9	--	--	2	4	1	1	--	--	47	87.0
35.0-35.9	--	--	--	--	1	2	2	--	52	96.3
36.0-36.9	--	--	--	--	--	--	--	1	53	98.1
37.0-37.9	--	--	--	--	--	1	--	--	54	100.0
Cumulative total	1	10	18	31	41	49	53	54		
Cumulative per cent	1.9	18.5	33.3	57.4	75.9	90.7	98.1	100.0		

TABLE B-30

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT DD
(B-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.											Cumulative Total	Cumulative Per Cent
	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9		
39.0-39.9	--	--	--	--	--	--	1	--	--	--	--	1	1.9
40.0-40.9	--	--	--	--	--	--	--	--	--	--	--	1	1.9
41.0-41.9	--	--	--	--	--	--	--	--	--	--	--	1	1.9
42.0-42.9	1	--	--	--	2	3	--	1	--	--	--	8	15.1
43.0-43.9	--	--	--	--	--	1	2	--	--	--	--	11	20.8
44.0-44.9	--	--	--	--	--	--	--	--	--	--	--	11	20.8
45.0-45.9	--	--	--	--	--	2	--	--	--	--	--	13	24.5
46.0-46.9	--	--	--	1	--	--	--	--	--	--	2	16	30.2
47.0-47.9	--	--	--	1	--	1	--	--	--	--	--	18	34.0
48.0-48.9	--	--	--	--	--	2	--	--	--	--	--	20	37.7
49.0-49.9	--	--	--	1	2	--	--	1	--	--	1	25	47.2
50.0-50.9	--	--	--	2	--	2	3	1	--	--	--	33	62.3
51.0-51.9	--	--	--	--	2	1	--	--	--	--	1	37	69.8
52.0-52.9	--	--	1	--	1	1	--	--	--	--	--	40	75.5
53.0-53.9	--	--	--	--	--	2	1	--	--	--	--	43	81.1
54.0-54.9	--	--	--	1	2	--	2	1	--	--	--	49	92.5
55.0-55.9	--	--	--	--	1	--	--	1	--	--	--	51	96.2
56.0-56.9	--	--	--	--	--	--	2	--	--	--	--	53	100.0
Cumulative total	1	1	2	8	18	33	44	49	49	49	53		
Cumulative per cent	1.9	1.9	3.8	15.1	34.0	62.3	85.0	92.5	92.5	92.5	100.0		

(1 set had only 3 values--rest rolled)

TABLE B-31

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT EE
(B-Flute)

Flat Crush Range, p.s.i.	Concora Range, p.s.i.							Cumulative Total	Cumulative Per Cent
	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9		
41.0-41.9	--	--	1	--	--	--	--	1	2.0
42.0-42.9	--	--	--	--	--	--	--	1	2.0
43.0-43.9	--	--	--	--	--	--	--	1	2.0
44.0-44.9	1	--	--	--	--	--	--	2	4.0
45.0-45.9	--	--	--	--	--	--	--	2	4.0
46.0-46.9	--	--	2	--	1	--	--	5	10.0
47.0-47.9	1	--	1	2	--	1	--	10	20.0
48.0-48.9	--	--	--	2	--	--	--	12	24.0
49.0-49.9	1	1	1	--	--	--	1	16	32.0
50.0-50.9	--	--	--	2	--	--	--	18	36.0
51.0-51.9	--	--	--	--	2	--	--	20	40.0
52.0-52.9	--	--	2	--	--	--	--	22	44.0
53.0-53.9	1	3	1	--	--	1	--	28	56.0
54.0-54.9	1	--	--	--	--	--	--	29	58.0
55.0-55.9	--	1	--	1	--	1	--	32	64.0
56.0-56.9	--	1	1	1	--	--	--	35	70.0
57.0-57.9	--	1	1	1	--	--	--	38	76.0
58.0-58.9	--	--	--	--	--	1	--	39	78.0
59.0-59.9	--	--	--	--	--	--	--	39	78.0
60.0-60.9	--	1	1	--	--	--	1	42	84.0
61.0-61.9	--	--	2	--	1	2	--	47	94.0
62.0-62.9	--	--	--	1	1	--	--	49	98.0
63.0-63.9	--	--	--	--	--	--	--	49	98.0
64.0-64.9	--	--	--	--	--	--	--	49	98.0
65.0-65.9	--	--	1	--	--	--	--	50	100.0
Cumulative total	5	13	27	37	42	48	50		
Cumulative per cent	10.0	26.0	54.0	74.0	84.0	96.0	100.0		

TABLE B-32

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT FF
(B-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.									Cumulative Total	Cumulative Per Cent
	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	41.0- 41.9		
43.0-43.9	--	--	--	2	--	--	--	--	--	2	3.7
44.0-44.9	--	1	--	--	--	1	--	--	--	4	7.4
45.0-45.9	--	--	--	--	2	1	--	--	--	7	13.0
46.0-46.9	--	--	1	--	--	1	--	--	--	9	16.7
47.0-47.9	--	--	1	1	1	1	1	1	--	15	27.8
48.0-48.9	--	1	--	1	1	3	1	1	1	24	44.4
49.0-49.9	--	--	--	1	2	1	1	2	1	32	59.3
50.0-50.9	--	--	--	--	1	4	1	1	--	39	72.2
51.0-51.9	--	--	--	--	--	--	--	1	--	40	74.1
52.0-52.9	--	--	--	--	1	1	--	--	--	42	77.8
53.0-53.9	1	--	--	--	--	1	1	--	--	45	83.3
54.0-54.9	--	--	--	--	1	--	3	--	--	49	90.7
55.0-55.9	--	--	1	--	--	--	1	--	1	52	96.3
56.0-56.9	--	--	--	--	--	1	--	--	--	53	98.1
57.0-57.9	--	--	--	--	--	--	--	1	--	54	100.0
Cumulative total	1	3	6	11	20	35	44	51	54		
Cumulative per cent	1.9	5.6	11.1	20.4	37.0	64.8	81.5	94.4	100.0		

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT GG

TABLE B-33

(C-Flute)		Frequency		Concra Range, p.s.i.		Flat Crush Range, p.s.i.		Cumulative		Cumulative		Per Cent	
40.0-40.9	--	--	--	1	--	--	--	1	--	--	--	1	1.8
41.0-41.9	--	--	--	1	--	--	--	3	--	--	--	3	5.5
42.0-42.9	--	--	--	--	--	--	--	3	--	--	--	3	5.5
43.0-43.9	--	--	--	1	--	--	--	4	--	--	--	4	7.3
44.0-44.9	1	--	--	1	--	--	--	7	--	--	--	7	12.7
45.0-45.9	--	--	--	2	--	--	--	9	--	--	--	9	16.4
46.0-46.9	--	--	--	--	--	--	--	10	--	--	--	10	18.2
47.0-47.9	--	--	1	1	--	--	--	16	--	--	--	16	29.1
48.0-48.9	--	--	3	3	1	2	--	26	--	--	--	26	47.3
49.0-49.9	--	--	1	1	4	2	--	39	--	--	--	39	70.9
50.0-50.9	--	--	--	--	2	--	--	43	--	--	--	43	78.2
51.0-51.9	--	--	--	1	3	--	--	48	--	--	--	48	87.3
52.0-52.9	--	--	--	--	1	--	--	50	--	--	--	50	90.9
53.0-53.9	--	--	--	--	--	1	--	53	--	--	--	53	96.4
54.0-54.9	--	--	--	1	--	--	--	55	--	--	--	55	100.0

Cumulative total
Cumulative per cent
1.8 1.8 3.6 10.9 23.6 43.6 67.3 83.6 96.4 98.2 100.0
GG-43 Flat Crush missing (55 complete values)

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT HH

TABLE B-34

(A-Flute)

Frequency

Concora Range, p.s.i.

Flat Crush Range, p.s.i.	30.0-	31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-	Cumulative Total	Cumulative Per Cent
28.0-28.9	1	1	1	--	--	--	--	--	--	3	6.2
29.0-29.9	--	1	--	1	--	--	--	--	1	6	12.5
30.0-30.9	--	1	--	1	--	--	1	--	--	9	18.8
31.0-31.9	--	--	1	5	--	--	--	--	1	16	33.3
32.0-32.9	--	--	1	--	1	4	3	--	--	25	52.1
33.0-33.9	--	--	--	3	5	--	--	2	2	37	77.1
34.0-34.9	--	--	--	2	2	2	--	3	--	44	91.7
35.0-35.9	--	--	--	--	--	--	--	--	--	44	91.7
36.0-36.9	--	--	--	1	--	--	--	1	--	46	95.8
37.0-37.9	--	--	1	--	--	--	--	--	1	48	100.0
Cumulative total	1	4	8	13	21	29	34	43	48		
Cumulative per cent	2.1	8.3	16.7	27.1	43.8	60.4	70.8	89.6	100.0		

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT II

Frequency

Concora Range, p.s.l.

Flat Crush Range, p.s.i.	Cumulative Total	Cumulative per cent
33.0-33.9	1	5.3
34.0-34.9	--	5.3
35.0-35.9	--	10.5
36.0-36.9	1	18.4
37.0-37.9	--	21.1
38.0-38.9	--	23.7
39.0-39.9	--	34.2
40.0-40.9	--	39.5
41.0-41.9	--	42.1
42.0-42.9	--	52.6
43.0-43.9	--	63.2
44.0-44.9	--	76.3
45.0-45.9	--	81.6
46.0-46.9	--	86.8
47.0-47.9	--	89.5
48.0-48.9	--	92.1
49.0-49.9	--	94.7
50.0-50.9	--	97.4
51.0-51.9	--	100.0

FREQUENCY DISTRIBUTION OF CONCORDA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT JJ (B-Flute)

(B-Flute)

Concora Range, p.s.i.

^aFlat crush range intervals 49.0 through 54.9 p.s.i. were omitted from the table as no test values fell in these intervals.

TABLE B-37
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT KK
(C-Flute)
Frequency

Flat Crush Range, p.s.i.	29.0- 29.9	30.0- 30.9	31.0- 31.9	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	40.0- 40.9	Cumulative Total	Cumulative Per Cent
33.0-33.9	1	--	--	--	--	--	--	--	--	--	--	--	1	1.8
34.0-34.9	--	--	--	1	--	--	--	--	--	--	--	--	1	1.8
35.0-35.9	--	--	2	--	--	--	--	--	--	--	--	--	4	7.1
36.0-36.9	--	--	--	1	2	--	--	--	--	--	--	--	7	12.5
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--	--	7	12.5
38.0-38.9	--	1	1	1	1	2	--	--	--	--	--	--	14	25.0
39.0-39.9	1	--	1	5	--	--	--	--	--	--	--	--	21	37.5
40.0-40.9	--	--	1	2	3	1	--	--	--	--	--	--	28	50.0
41.0-41.9	--	--	1	1	1	2	--	--	1	--	--	--	34	60.7
42.0-42.9	--	--	2	--	--	1	--	--	--	--	--	--	37	66.1
43.0-43.9	--	--	--	--	1	--	--	--	--	--	--	--	38	67.9
44.0-44.9	--	--	--	1	--	--	--	1	--	1	--	--	42	75.0
45.0-45.9	--	--	--	--	--	2	1	--	1	--	--	--	46	82.1
46.0-46.9	--	--	--	--	--	--	1	--	1	--	--	--	48	85.7
47.0-47.9	--	--	--	--	--	1	--	--	--	--	2	1	52	92.9
48.0-48.9	--	--	--	--	--	--	--	--	1	--	--	2	55	98.2
49.0-49.9	--	--	--	--	--	--	--	--	--	--	--	--	55	98.2
50.0-50.9	--	--	--	--	--	--	--	--	--	--	--	--	55	98.2
51.0-51.9	--	--	--	--	--	--	--	--	--	--	--	--	56	100.0
Cumulative total	2	3	11	23	31	40	41	45	49	50	52	56		
Cumulative per cent	3.6	5.4	19.6	41.1	55.4	71.4	78.6	80.4	87.5	89.3	92.9	100.0		

Concra Range, p.s.i.

TABLE B-38

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT LT
(C-Flute)

Frequency

Flat Crush Range, p.s.i.	Concora Range, p.s.i.										Cumulative Total	Per Cent Cumulative
	30.0-	31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	37.9	37.9		
35.0-35.9	1	--	--	--	--	--	--	--	--	--	1	4.3
36.0-36.9	--	--	--	--	--	--	--	--	--	--	1	4.3
37.0-37.9	--	1	--	--	--	--	--	--	--	--	3	13.0
38.0-38.9	--	--	--	--	--	--	--	--	--	--	3	13.0
39.0-39.9	--	1	--	--	--	--	--	--	--	--	4	17.4
40.0-40.9	--	2	--	3	--	--	--	--	--	--	9	39.1
41.0-41.9	--	1	1	1	--	--	--	--	--	--	13	56.5
42.0-42.9	--	1	--	--	--	1	--	--	--	--	15	65.2
43.0-43.9	--	--	--	--	1	1	--	--	--	--	17	73.9
44.0-44.9	--	--	1	--	--	--	--	--	--	--	19	82.6
45.0-45.9	--	--	--	--	--	1	3	--	--	--	23	100.0
Cumulative total	1	7	9	14	17	22	22	22	23	23		
Cumulative per cent	4.3	30.4	39.1	60.9	73.9	95.7	95.7	95.7	100.0	100.0		

23 Values

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT MM

Frequency

Flat Crush		Concra Range, p.s.f.									53 Values							
Range, p.s.f.		30.0-	30.9	31.0-	31.9	32.0-	32.9	33.0-	33.9	34.0-	34.9	35.0-	35.9	36.0-	36.9	37.0-	Cumulative Total	Cumulative Per Cent
40.0-40.9	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1	1.9
41.0-41.9	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	2	3.8
42.0-42.9	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	4	7.5
43.0-43.9	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--	6	11.3
44.0-44.9	1	1	1	3	--	3	--	--	--	1	--	--	--	--	--	--	13	24.5
45.0-45.9	1	--	--	2	3	--	1	--	--	2	--	--	--	--	--	--	22	41.5
46.0-46.9	--	--	--	2	2	2	--	1	--	--	--	--	--	--	--	--	29	54.7
47.0-47.9	--	--	1	2	3	--	--	--	--	--	--	--	--	--	--	--	36	67.9
48.0-48.9	--	--	--	--	--	--	3	1	--	--	3	--	--	--	--	--	41	77.4
49.0-49.9	--	--	1	--	--	--	1	3	1	--	--	--	--	--	--	--	49	92.5
50.0-50.9	--	--	--	1	--	--	1	--	--	--	--	--	--	--	--	--	53	100.0
Cumulative total	2	5	14	31	39	44	50	53										
Cumulative per cent	3.8	9.4	26.4	58.5	73.6	83.0	94.3	100.0										

TABLE B-40

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT NM
(C-Flute)

Frequency

Flat crush		Concorra Range, p.s.i.										Range, p.s.i.		Flat crush	
30.0-	31.0-	30.9	31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	Cumulative	Total	30.9	31.0-	30.0-	31.0-
33.0-33.9	--	--	1	--	--	--	--	--	--	--	1	--	31.9	31.0-	32.0-
38.0-38.9	--	--	2	--	--	--	--	1	--	--	4	--	32.9	32.0-	33.0-
39.0-39.9	--	1	2	3	--	--	1	1	--	--	12	--	33.9	33.0-	34.0-
40.0-40.9	--	--	7	1	--	--	--	--	--	--	20	--	34.9	34.0-	35.0-
41.0-41.9	1	1	3	1	--	--	--	1	--	--	27	--	35.9	35.0-	36.0-
42.0-42.9	--	--	3	2	--	--	--	--	--	--	32	--	36.9	36.0-	37.0-
43.0-43.9	--	--	6	1	1	1	--	--	--	--	41	--	37.9	37.0-	
44.0-44.9	--	--	1	1	5	1	1	1	--	--	50	--			
45.0-45.9	--	1	--	--	--	2	2	--	--	--	55	--			
46.0-46.9	--	--	--	1	--	--	--	--	1	--	57	--			
Cumulative total		1	4	30	43	47	52	56	57						
Cumulative per cent		1.8	7.0	52.6	75.4	82.5	91.2	98.2	100.0						

Flat crush range intervals 34.0 through 37.9 p.s.i. were omitted from the table as no test values fell in these intervals.

57 Values

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT 00 (C-Flute)

(C-Flute)

Flat Crush	Concra Range, p.s.i.	Concra Range, p.s.i.	55 Values	per cent
30.0-30.9	30.0-30.9	30.0-30.9	5	9.1
31.0-31.9	31.0-31.9	31.0-31.9	8	14.5
32.0-32.9	32.0-32.9	32.0-32.9	15	27.3
33.0-33.9	33.0-33.9	33.0-33.9	23	41.8
34.0-34.9	34.0-34.9	34.0-34.9	32	58.2
35.0-35.9	35.0-35.9	35.0-35.9	44	80.0
36.0-36.9	36.0-36.9	36.0-36.9	49	89.1
37.0-37.9	37.0-37.9	37.0-37.9	52	94.5
38.0-38.9	38.0-38.9	38.0-38.9	54	98.2
39.0-39.9	39.0-39.9	39.0-39.9	55	100.0
40.0-40.9	40.0-40.9	40.0-40.9	1	
41.0-41.9	41.0-41.9	41.0-41.9	1	
42.0-42.9	42.0-42.9	42.0-42.9	1	
43.0-43.9	43.0-43.9	43.0-43.9	1	
44.0-44.9	44.0-44.9	44.0-44.9	1	
45.0-45.9	45.0-45.9	45.0-45.9	1	
46.0-46.9	46.0-46.9	46.0-46.9	1	
47.0-47.9	47.0-47.9	47.0-47.9	2	
48.0-48.9	48.0-48.9	48.0-48.9	2	
49.0-49.9	49.0-49.9	49.0-49.9	4	
50.0-50.9	50.0-50.9	50.0-50.9	1	
51.0-51.9	51.0-51.9	51.0-51.9	1	
52.0-52.9	52.0-52.9	52.0-52.9	2	
53.0-53.9	53.0-53.9	53.0-53.9	1	
Cumulative total			55	
Cumulative Range, p.s.i.				

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT PP
(C-Flute)

Frequency

Concora Range, p.s.i.

Flat Crush Range, p.s.i.	31.0- 32.0	32.0- 32.9	33.0- 33.9	34.0- 34.9	35.0- 35.9	36.0- 36.9	37.0- 37.9	38.0- 38.9	39.0- 39.9	Cumulative Total	Per Cent
38.0-38.9	1	--	--	--	--	--	--	--	--	1	1.9
39.0-39.9	--	--	--	--	--	--	--	1	--	2	3.7
40.0-40.9	--	--	--	1	1	--	1	--	--	5	9.3
41.0-41.9	--	1	--	--	--	--	--	--	--	6	11.1
42.0-42.9	--	--	1	--	1	--	--	--	--	8	14.8
43.0-43.9	--	--	--	1	1	--	1	--	--	11	20.4
44.0-44.9	--	--	--	2	2	--	1	--	--	16	29.6
45.0-45.9	--	--	1	--	2	--	1	--	--	20	37.0
46.0-46.9	--	--	--	--	4	--	1	--	--	25	46.3
47.0-47.9	--	--	--	2	1	2	2	--	--	32	59.3
48.0-48.9	--	--	--	4	1	1	5	--	--	46	85.6
49.0-49.9	--	--	--	--	--	2	1	--	--	50	92.6
50.0-50.9	--	--	--	--	--	--	1	--	--	51	94.4
51.0-51.9	--	--	--	--	--	3	--	--	--	54	100.0
Cumulative total	1	2	7	17	29	41	53	54	--		
Cumulative per cent	1.9	3.7	13.0	31.5	53.7	75.9	98.1	100.0	--		

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT 00

(C-Flute)

Frequency

Concora Range, p.s.i.

Flat Crush Range, p.s.i.	31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-	39.0-	40.0-	Cumulative	Total	Cumulative Per Cent
38.0-38.9	2	2	--	1	--	--	--	--	--	--	--	5	9.4
39.0-39.9	--	--	1	1	1	--	--	--	--	--	--	8	15.1
40.0-40.9	--	1	1	1	2	--	--	--	--	--	--	13	24.5
41.0-41.9	1	--	1	4	--	1	--	1	--	--	--	21	39.6
42.0-42.9	--	--	1	--	1	1	--	--	--	--	--	25	47.2
43.0-43.9	--	1	--	--	2	1	1	--	--	--	--	33	62.3
44.0-44.9	--	--	--	--	1	--	1	--	--	--	--	35	66.0
45.0-45.9	--	--	--	1	2	1	1	--	--	--	--	40	75.5
46.0-46.9	--	--	--	--	2	1	--	--	--	--	--	43	81.1
47.0-47.9	--	--	--	--	1	--	1	--	--	--	--	45	84.9
48.0-48.9	--	--	--	--	1	1	--	1	--	--	--	48	90.6
49.0-49.9	--	--	--	--	--	1	2	--	--	--	--	51	96.2
50.0-50.9	--	--	--	--	--	--	--	1	--	--	--	52	98.1
51.0-51.9	--	--	--	--	--	--	--	--	--	--	--	53	100.0
Cumulative total	3	7	11	19	32	41	48	52	52	53	53	53	100.0
per cent	5.7	13.2	20.8	35.8	60.4	77.4	90.6	98.1	98.1	100.0			

FREQUENCY DISTRIBUTION OF CONGORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT SS

(A-Flute)

Frequency

Concora Range, p.s.i.

Flat Crush Range, p.s.i.	26.0-26.9	27.0-27.9	28.0-28.9	29.0-29.9	30.0-30.9	31.0-31.9	32.0-32.9	33.0-33.9	34.0-34.9	35.0-35.9	36.0-36.9	37.0-37.9	38.0-38.9	39.0-39.9	40.0-40.9	Cumulative Total	Cumulative Per Cent
26.0-26.9	--	1	--	--	1	3	1	3	1	2	1	1	1	1	1	1	2.3
27.0-27.9	--	1	--	--	1	3	1	3	1	2	1	1	1	1	1	2	4.5
28.0-28.9	1	--	1	--	1	3	1	3	1	2	1	1	1	1	1	4	9.1
29.0-29.9	1	--	--	--	1	3	1	3	1	2	1	1	1	1	1	6	13.6
30.0-30.9	--	--	--	--	1	3	1	3	1	2	1	1	1	1	1	12	27.3
31.0-31.9	1	--	--	--	--	3	1	3	1	2	1	1	1	1	1	24	54.5
32.0-32.9	--	--	--	--	--	1	3	1	2	1	1	1	1	1	1	31	70.4
33.0-33.9	--	--	--	--	--	--	1	1	1	2	1	1	1	1	1	37	84.1
34.0-34.9	--	--	--	--	--	--	--	--	--	1	1	1	1	1	1	41	93.2
35.0-35.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	97.7
36.0-36.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	97.7
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	97.7
38.0-38.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	100.0
Cumulative total	3	6	7	14	25	32	40	42	44	44	44	44	44	44	44	44	100.0
Cumulative per cent	6.8	13.6	15.9	31.8	56.8	72.7	90.9	95.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE B-45

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT 11

(A-Flute)

Frequency

Concora Range, p.s.i.

Flat Crush Range, p.s.i.	35.0- 36.0	36.0- 37.0	37.0- 38.0	38.0- 39.0	39.0- 40.0	40.0- 41.0	Cumulative Total	Per Cent
26.0-26.9	--	1	--	--	--	--	1	7.7
a	--	--	--	--	--	--	--	--
32.0-32.9	1	--	--	1	--	--	3	23.1
33.0-33.9	1	--	--	1	--	--	5	38.5
34.0-34.9	--	1	--	--	--	--	6	46.2
35.0-35.9	--	--	--	--	--	--	6	46.2
36.0-36.9	--	1	1	--	1	--	9	69.2
37.0-37.9	--	--	--	--	--	--	9	69.2
38.0-38.9	--	--	1	--	--	--	10	76.9
39.0-39.9	--	--	1	--	--	1	12	92.3
a	--	--	--	--	--	--	--	--
42.0-42.9	--	--	--	--	1	--	13	100.0
Cumulative total	2	3	6	8	11	12	13	
Cumulative per cent	15.4	23.1	46.2	61.5	84.6	92.3	100.0	

^a Flat crush range intervals 27.0 through 31.9 and 40.0 through 41.9 p.s.i. were omitted from the table as no test values fell in these intervals.

TABLE B-47
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT UU
(B-Flute)

Concora Range, p.s.i.		Frequency									
Flat Crush Range, p.s.i.		30.0-	31.0-	32.0-	33.0-	34.0-	Cumulative	Total	Per Cent	Cumulative	Per Cent
53.0-53.9	1	--	--	--	1	1	2	40.0	60.0	2	40.0
54.0-54.9	--	--	1	--	--	--	3	60.0	--	3	60.0
a	--	--	--	--	--	--	--	--	--	--	--
57.0-57.9	--	--	--	--	--	1	4	80.0	--	4	80.0
a	--	--	--	--	--	--	--	--	--	--	--
61.0-61.9	--	--	1	--	--	--	5	100.0	--	5	100.0
62.0-62.9	--	--	--	--	--	--	--	--	--	--	--
63.0-63.9	--	--	--	--	--	--	--	--	--	--	--
Cumulative total	1	1	3	3	5	5					
Cumulative per cent	20.0	20.0	60.0	60.0	100.0	100.0					

^a Flat crush range intervals 55.0-56.9 and 58.0-60.9 were omitted from the table as no test values fell in these intervals.

FREQUENCY DISTRIBUTION OF CONCORDA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT VV (C-Flute)

Frequency

Concora Range, p.s.l.

Flat Crush	Range, p.s.f.	Cumulative Total	Cumulative Per Cent
40.0-40.9	--	--	1.9
41.0-41.9	--	--	1.9
42.0-42.9	--	--	3.7
43.0-43.9	--	--	9.3
44.0-44.9	1	--	24.1
45.0-45.9	--	--	37.0
46.0-46.9	--	--	48.1
47.0-47.9	--	--	57.4
48.0-48.9	--	--	79.6
49.0-49.9	--	--	85.2
50.0-50.9	--	--	94.4
51.0-51.9	--	--	98.1
52.0-52.9	--	--	100.0
Cumulative total	1	54	
Cumulative per cent	1.9	98.1	100.0

FREQUENCY DISTRIBUTION OF CONCORDA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT W

Frequency

Flat crush	Cumulative	Total	Per Cent
32.0-	40.0-	40.9	
32.9	39.0-	39.9	
33.0-	38.0-	38.9	
33.9	37.0-	37.9	
34.0-	36.0-	36.9	
34.9	35.0-	35.9	
35.0-	34.0-	34.9	
35.9	33.0-	33.9	
36.0-	32.0-	32.9	
Range, p.s.i.			

42.0-42.9	43.0-43.9	44.0-44.9	45.0-45.9	46.0-46.9	47.0-47.9	48.0-48.9	49.0-49.9	50.0-50.9	51.0-51.9	52.0-52.9	53.0-53.9	54.0-54.9	55.0-55.9	Cumulative total	Cumulative per cent
1	2	--	3	--	2	--	--	--	--	--	--	--	--	3	5.3
--	1	--	--	--	--	--	--	--	--	--	--	--	--	7	12.3
1	2	1	--	--	2	--	--	--	--	--	--	--	--	13	22.8
--	1	2	3	--	4	1	1	--	--	--	--	--	--	27	47.4
--	1	--	2	1	1	1	1	1	--	--	--	--	--	35	61.4
--	--	--	2	--	1	1	1	1	--	--	--	--	--	41	71.9
--	--	--	1	2	1	--	2	--	--	1	--	--	1	49	86.0
--	--	--	--	--	1	--	--	--	--	1	--	--	--	52	91.2
--	--	--	--	--	--	--	--	--	2	--	--	--	--	57	100.0
2	9	12	23	28	37	42	46	51	54	56	56	56	57		
3.5	15.8	21.1	40.4	49.1	64.9	73.7	80.7	89.5	94.7	98.2	98.2	98.2	98.2		

TABLE B-50
FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT XX
(C-Flute-39)

Frequency		Concora Range, p.s.i.										Flat Crush Range, p.s.i.	
Cumulative	Total	Per Cent										Cumulative	Total
		31.0-	32.0-	33.0-	34.0-	35.0-	36.0-	37.0-	38.0-	39.0-	39.9		
35.0-35.9	1	--	--	--	--	1	--	--	--	--	--	2.0	1
a	--	--	--	--	--	--	--	--	--	--	--	--	--
40.0-40.9	--	2	1	1	--	1	--	1	--	1	--	14.6	7
41.0-41.9	--	1	3	1	1	1	--	1	--	1	--	29.2	14
42.0-42.9	2	2	3	--	1	1	1	1	--	1	--	52.1	25
43.0-43.9	--	--	1	1	1	1	--	--	--	--	--	60.4	29
44.0-44.9	--	--	--	1	--	--	1	1	1	2	--	70.8	34
45.0-45.9	--	--	--	--	--	1	1	1	1	--	--	77.1	37
46.0-46.9	--	--	--	--	--	--	2	--	--	--	--	81.2	39
47.0-47.9	--	--	--	--	--	2	--	--	1	--	--	87.5	42
48.0-48.9	--	--	--	1	1	1	--	--	--	--	--	93.8	45
49.0-49.9	--	--	--	--	--	--	1	--	1	--	--	97.9	47
50.0-50.9	--	--	--	--	--	--	1	--	--	--	--	100.0	48
Cumulative total	2	7	15	20	27	36	40	45	48				
per cent	4.2	14.6	31.2	41.7	56.2	75.0	83.3	93.8	100.0				

Flat crush range intervals 36.0 through 39.9 p.s.i. were omitted from the table as no test values fell in these intervals.

FREQUENCY DISTRIBUTION OF CONCORA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT Y
(C-Flute-39)

TABLE B-51

Frequency		Concora Range, p.s.i.		Flat Crush Range, p.s.i.	
		36.0-	35.0-	33.0-	32.0-
		36.9	35.9	34.9	32.9
Cumulative	Total				
Per Cent					
10.0	2	--	--	1	1
15.0	3	--	--	1	--
15.0	3	--	--	--	--
20.0	4	--	--	1	--
30.0	6	1	--	--	1
65.0	13	--	1	5	1
85.0	17	--	2	1	--
95.0	19	1	--	--	1
--	--	--	--	--	--
100.0	20	1	--	--	--
		Cumulative total		Cumulative total	
		100.0		100.0	

Flat crush range intervals 47.0 through 51.0 p.s.i. were omitted from the table as no test values fell in these intervals.

TABLE B-52

FREQUENCY DISTRIBUTION OF CONCORRA AND COMBINED BOARD FLAT CRUSH FOR BOX PLANT ZZ
(C-Flute-39)

Concorra Range, p.s.i.										Frequency	
Flat Crush Range, p.s.i.	30.0-	30.9	31.0-	31.9	32.0-	32.9	33.0-	33.9	34.0-	34.9	35.0-
36.0-36.9	--	--	--	--	1	--	--	--	--	--	--
37.0-37.9	--	--	--	--	--	--	--	--	--	--	--
38.0-38.9	--	--	--	--	--	--	--	1	--	--	--
39.0-39.9	--	--	--	--	2	--	--	--	--	--	--
40.0-40.9	--	--	--	--	3	--	--	--	--	--	--
41.0-41.9	1	--	--	3	3	--	1	1	1	--	--
42.0-42.9	--	--	--	1	1	--	1	--	--	--	--
43.0-43.9	--	--	--	--	2	--	3	--	--	--	--
44.0-44.9	--	--	--	--	--	--	2	1	1	--	--
45.0-45.9	--	--	--	--	--	--	--	1	1	--	--
46.0-46.9	--	--	--	--	--	--	--	1	--	--	--
47.0-47.9	--	--	--	--	--	--	--	2	--	--	--
48.0-48.9	--	--	--	--	--	--	--	1	--	--	--
49.0-49.9	--	--	--	--	--	--	--	--	1	--	--
Cumulative total	1	1	10	19	30	35	38	44	47	49	100.0
Cumulative per cent	2.0	2.0	20.4	38.8	61.2	71.4	77.6	89.8	95.9	100.0	

Cumulative
Total
Per Cent

APPENDIX C--OUTLINE OF STUDY

A STUDY OF THE FLAT-CRUSH DISTRIBUTION OF COMBINED BOARD FABRICATED WITH COMMERCIAL MEDIUMS

The Fourdrinier Kraft Board Institute has approved a study relative to the relationship between the Concora quality of corrugating medium and the flat-crush resistance of commercially fabricated corrugated combined board. The primary purpose of the study is to provide the members of Fourdrinier Kraft Board Institute with information as to the distribution of flat-crush values to be expected from commercial corrugating medium when fabricated into combined board in the major flutes as a part of regular production runs on commercial corrugators. The flutes included in this study are:

1. A-flute
2. B-flute
3. C-flute - regular (42 flutes per foot)
4. C-flute - special (39 flutes per foot)

A minimum of fifteen corrugators have been selected for each of the above flutes except in the case of the special (39 flutes per foot) C-flute which will be limited to five. In brief, each selected corrugator is to take samples of medium and the corresponding combined board from nine different runs per month on the corrugator over a six-month period.

These samples are to be forwarded to The Institute of Paper Chemistry, Appleton, Wisconsin (Attention R. C. McKee) for evaluation. The selection of samples, fabrication and sampling to be carried out relative to each corrugator are described below:

A. Corrugating Medium

1. Quality

Any nominal 26-lb. grade or equivalent of roll quality as to be acceptable by the box plant in question.

2. Basis of selection

The rolls are to be selected at the box plant from inventory. There are no limitations as to source, type or date of manufacture.

3. Sampling frequency

Recommended that nine rolls per month be selected by each corrugator during the six-month period (July through December 31), preferably two per week.

B. Fabrication

1. Grade of combined board

The study is to be limited to 175- and 200-series combined board fabricated with 38- and 42-lb. liners and nominal 26-lb. medium or its equivalent, using conventional adhesives.

2. Conditions

The selected rolls of medium shall be corrugated under normal operating conditions for the given corrugator for the grade in question. It is recommended that the selected rolls be corrugated only after the corrugator has been operated for a sufficient period of time to be in normal adjustment. It is further recommended that the corrugation of the selected rolls on a given set of corrugating rolls be limited to one roll per day. However, in those cases where a particular corrugator makes 175- and 200-series board only a few times per month, sampling may be extended to one sample per shift.

3. Sampling

The sampling is to be carried out by the convertor at the time each selected roll is corrugated.

a. Medium

Each roll of medium used in the study is to be sampled at the beginning and end of its run on the corrugator by a box plant representative. The sample taken at the beginning shall consist of four square-foot sheets taken at equal intervals across the width of the roll after all damaged medium has been removed. Each sheet sampled as described above shall be marked "start". The sample sheets at the end of the run shall be marked "end" and shall be taken in the same manner as the "start" with the provision that the sampling shall be done when the roll of medium has a diameter of 12 inches or greater. Mimeographed forms are attached so that the following information may be recorded and forwarded with the sample.

Medium Data Form

1. Date roll run on corrugator _____
2. Name of mill making medium _____
3. Date mfg. _____ Roll No. _____
4. Type of medium: semichem _____ bogus _____ straw _____
kraft _____ chestnut _____
5. Machine No. _____ Roll width _____
6. Corrugator name _____ No. _____
7. Date corrugated _____
8. Material
Liner weight, lb. _____
Flute _____
9. Name of person filling in form _____

b. Combined board

The sampling of the combined board is to be carried out by a box plant representative at the time the selected roll of medium is being corrugated. Box blanks representing the full width of the corrugator are to be taken at the beginning and end of corrugation of each selected roll of medium. The blank corresponding to the "start" shall be taken only after acceptable board is being produced. Each blank shall be trimmed to approximately 15 inches in the machine direction only, marked "start" and as to its position across the corrugator. The sample corresponding to "end" shall be taken in the same manner as the "start" with the provision that it shall be taken so as to correspond as nearly as possible to the "end" sampling of the roll of medium. The combined board sample shall contain only combined board which has moved through the hot plate section at the speed indicated for that particular run. A mimeographed form is attached for recording additional data which should be forwarded with each sample of combined board. The additional information requested is illustrated in the following sample form.

Combined Board Data Form

1. Company _____ Corrugator No. _____
2. Date corrugated _____
3. Material combination _____
4. Type of adhesive _____
5. Corrugator speed _____
6. Flute: A _____ B _____ C-Reg. _____ C-Special _____
7. Medium manufacturer _____
8. Medium Roll No. _____ Date medium mfg. _____
9. Name of person filling in form _____

Each medium sample is to be separately wrapped with the corresponding sample of combined board and forwarded to The Institute of Paper Chemistry, Appleton, Wisconsin, ATTENTION: R. C. McKee. The combined board samples should be protected against crushing in shipment.

C. Evaluation

The Institute of Paper Chemistry will evaluate each sample, analyze the data and render a report. The evaluation will be carried out as follows:

1. Corrugating medium

One Concora specimen shall be cut and tested from each of the eight square-foot samples which make up the medium sample.

2. Combined board

Four test specimens will be cut from the "start" and four from the "end". Each specimen will be tested in accordance with ASTM D-1225-54 except as follows:

a. Specimens exhibiting rolling flutes shall be recorded but invalidated. A replacement test shall be made for each invalidated specimen and the flat crush reported as the average of the eight valid specimens.

ANALYSIS AND INTERPRETATION

The data obtained above will be analyzed to provide the following information:

1. Relationship between Concora flat crush and combined board flat crush
2. Distribution of Concora flat crush
3. Distribution of combined board flat crush.